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ARTICLE IV.

CLIMATE AND DISEASES OF NEW MEXICO. REMARKABLE EXEMPTION FROM CONSUMPTION. PREVALENCE OF RHEUMATISM AND SYPHILIS.

The statement has been made by a French writer, that tubercular consumption does not originate in regions elevated 5000 feet or more above the sea. Knowing that the Territory of New Mexico had an elevation varying from 4000 to 10,000 feet, and that it had shown a remarkable freedom from tubercular disease, according to the statistics of the U. S. Army, I felt strongly desirous of ascertaining whether it might not be the best place to which we could send consumptively inclined patients from this region. I, therefore, addressed a letter of inquiry to Dr. O. M. BRYAN, Surg. U.S. Vols., and Med. Director at Santa Fé, N. Mexico. I present his reply to the readers of the EXAMINER, in the following pages. Surgeon BRYAN is known to the profession of this State as the former Secretary of the Illnois State Board of Medical Examiners.

E. ANDREWS, M.D.

SANTA FE, N. M., Nov. 10, 1864.

DOCTOR ANDREWS—*Dear Sir:*—In reply to your letter, making inquiries in regard to the character of diseases peculiar to this country, the effect of high latitudes upon diathesis, etc.,

I would say: that your questions can be more correctly and satisfactorily answered by furnishing you, from the Hospital records, the necessary statistics.

I, therefore, enclose herewith a consolidated meteorological register for the year 1863, taken from the records of the hospital at Fort Marcy, Santa Fé, N. M. Also, a consolidated report of sick and wounded for the same year.

From the former, you will be able to obtain much important information in regard to the peculiarities of the climate of Santa Fé; and from the latter, you can form some idea of the varieties of disease we have to treat in this department; you cannot, however, from this report obtain any information in regard to the diseases peculiar to Santa Fé, from the fact, patients are brought here for treatment, from all parts of the Department, from an altitude of near 3500 to that of near 7000 feet. You will observe from this report, that there were 32 cases of intermittent fever treated during the year; in my opinion, not one of them originated in Santa Fé. The 269 cases treated during the year, in hospital at Fort Marcy, are classified as follows:—

Fevers, continued, 1; typhoid, 1; intermittent quot. 32,- 34
Diseases of the organs connected with the digestive system, 25
Diseases of the respiratory system, ---------- 40
Diseases of the brain and nervous system, ---------- 5
Diseases of the genital organs and venereal affections,--- 74
Diseases of the fibrous and muscular structure, ---------- 12
Abscesses and Ulcers,---------- 6
Wounds and Injuries, ---------- 49
Diseases of the eye, ---------- 4
Diseases of the ear,---------- 3
All other diseases,---------- 17

Out of the entire number, there were only six deaths: one om delirium tremens; one from syphilis consec'd; one from asarca; one from debility; and two from pneumonia. I uld here remark, that the 269 cases referred to, were com- ed of troops from California as well as from New Mexico.

For the past eighteen months, I have been on duty in Santa and during that time have had a good opportunity of ob-

serving the character of diseases common to the natives of the city and county about. Agreeable to your request, I will give you the names of the diseases most frequently met with among the native population of this section of New Mexico, and to the best of my judgment the ratio per 100 of each:—

Gonorrhœa,	15	Pneumonia,	3
Syphilis,	8	Paralysis,	4
Rheumatism,	10	Chorea,	1
Dyspepsia,	10	Scrofula,	6
Diarrhœa,	6	Erysipelas,	3
Dysentery,	3	Anasarca,	4
Hepatitis,	3	Ascites,	2
Catarrh,	12	Typhoid Fever,	2
Bronchites, chronic,	3	Conjunctivitis,	5

You will be surprised at the large percentage of venereal disease; but if you could live in this country, and become acquainted with the manners and customs of the people, you would find the Mexican population in a state of complete moral degradation, unsurpassed, in my opinion, on the face of the earth. The natives (with a few exceptions) consider it no more of a disgrace to be suffering from a venereal disease, than from a bad cold; and both sexes will converse with you freely upon the subject without a blush. I will relate you a case that occurred in my practice a few days ago, that will give you some idea of the morals of this country. A Mexican, of good family and some little wealth, called at my office, and requested me to visit his wife and daughter, who were living some three miles distant from the city, and were both suffering severely from syphilis. I promised to do so next morning. Found the wife a woman of about 35 years of age, and, upon examination, found a large syphilitic chancre, which she informed me was about *two weeks old;* told me she contracted the disease from her husband, and that the husband contracted his from a prostitute in Santa Fé. The husband acknowledged the statement correct. As far as I could judge, there was a perfect good feeling between the parties, and they seemed to look upon the matter simply as a *bad accident.*

I next examined the daughter, a girl about 15 years of age;

found her in bed, perfectly helpless, with syphilitic rheumatism; had been confined to her bed over two months; was very much emaciated; soft palate nearly gone from ulceration, together with the power of articulation; bones of the nose were carious, &c. She informed me that she contracted the disease from a soldier, who kept her as his mistress, some months ago.

Cases similar to the one I have related are by no means uncommon in New Mexico.

Rheumatism, in all its forms, is another disease peculiar to this country. I am satisfied that altitude has but little to do with producing or aggravating the disease, from the fact that about the same proportion of cases are reported to me monthly from the different posts between here and Franklin, Texas; and we find a difference in altitude between the two points of over 3000 feet. All classes—the rich and the poor—the American with all his comforts and luxuries, as well as the poor Mexican, who is obliged to suffer severe exposures, at the same time destitute of proper food and clothing, are liable to suffer more or less from rheumatism.

You will observe, from my list of diseases, that dyspepsia is one of the *ranking* diseases of the country. All classes suffer from it, and, in my opinion, it is produced, to a great extent, from the enormous amount of chile (red pepper) that they consume. They eat it three times per day, if they can get it, sometimes cooked alone and sometimes with meat. If you ask a sick Mexican if he is suffering much pain, the common reply is, "Se, Senor; mi estomago nee duele mucho." Yes, sir; I have much pain in the stomach.

Colds and coughs are also very common here in the winter season. They are produced by living in warm and crowded rooms, poorly ventilated, and exposure to the cold air without sufficient clothing. Another cause of the constant hacking cough that the Mexicans are so subject to, is, the habit both sexes have of constantly smoking their cigaritas. They are generally made of tobacco rolled in *corn husks;* the smoke of the husks has a tendency to irritate the air-passages and produce a cough. Colds and coughs seldom result in anything serious,

although I have seen, in Santa Fé, cases both of bronchitis and pneumonia result fatally.

We often see, in this altitude, cases of scrofula among the lower classes, evidently produced by exposure, bad diet, uncleanliness, living in crowded and badly ventilated rooms, &c.

Since I have been on duty in Santa Fé, I have had to treat among the natives five cases of hemiplegia (all between 50 and 60 years of age)—one case of pariplegia, that proved fatal—one case of malignant erysipelas, that attacked the upper lip and proved fatal in a few days. Cases of simple erysipelas are by no means uncommon. Have operated upon four natives (all middle age) for paracentisis abdominis; three out of the four have since died; the fourth, I believe, will recover. Have met with two cases of typhoid fever during the past 18 months.

I have never seen a case of tetanus, cancer, typhus fever, or malarious disease of any kind that I had reason to believe originated here. We occasionally have epidemics of scarlet fever, measles, small-pox, and whooping-cough among the children, that is truly frightful and fearfully fatal. The cause of the great mortality among children is very evident; poorly clad, poorly fed, and poorly lodged. There is snow on the ground at the present moment, but if you could walk through the streets of Santa Fé, you might see, perhaps, 50 children nearly naked, and many literally so.

You will observe that I have not included tuberculosis among the diseases common to this country. From obsrrvation, I am satisfied that tuberculosis should never originate in New Mexico; but when you take into consideration the manner in which the lower classes live, in total violation of every hygeinic law, it is really surprising that half the population are not suffering from scrofula and pulmonary tuberculosis. Since I have been here, I have had the opportunity of witnessing and making a careful examination in two cases of *genuine* tuberculosis that originated and terminated fatally in Santa Fé. Both cases were women, one 23 and the other 45 years of age; the former was born and raised in this city, and the latter was born in old Mexico, but contracted the disease in Santa Fé. I mention

these cases to show that tuberculosis *does originate* at an altitude of near 7000 feet.

You ask if consumptives removing to Santa Fé obtain decided benefit. If the disease is far advanced, I think not; if in the first stage, I think they do. In my opinion, there are places in this Department far superior to Santa Fé for pulmonary disease. My observation teaches me that the altitude here is too great, the atmosphere too rarefied, and the winters too cold for consumptives.

For over three years past I have been suffering from chronic bronchitis. I will now give you my experience in regard to the different localities in this Department, which I find agrees with the experience of others with whom I have conversed suffering with pulmonary disease.

After having a hard trip across the Plains, riding day and night and coughing most of the time, I arrived in Santa Fé Nov. 12th, 1862 (altitude 6846 feet). My breathing, as I approached the city and after arriving here, became very much labored, my respiration hurried, great oppression about the chest, and a sensation that I should have hemorrhage of the lungs if I made much physical exertion. These symptoms were so distressing, that I requested Surgeon E. J. Bailey, U.S.A., then Medical Director of the Department, to order me immediately down the river. After remaining in Santa Fé three days, I was ordered to Los Perios, a military post situated on the Rio Grande, 79 miles south of Santa Fé (altitude 4932 feet). All the unpleasant symptoms above described began to disappear as I descended the river, and left me entirely while at Los Perios; could see but little improvement in my cough.

About the middle of January, 1863, I was ordered to La Mesilla, N. M.; a town located on the Rio Grande, 280 miles below Santa Fé (altitude 4000 feet). Here my breathing became natural, and my cough began to improve—(there is, however, too much wind and dust at La Mesilla and Las Cruces to make them desirable points for a consumptive). About the 1st of March I was ordered to Franklin, Texas; a delightful military post on the Rio Grande, just opposite the City of El Passo,

in old Mexico; 326 miles south of Santa Fé, and 46 miles south of La Mesilla (altitude about 3700 feet).

I consider Franklin by far the most desirable post in the Department for a consumptive. It is so situated (partially surrounded by mountains) that you escape, to a great extent, the severe winds and dust that you find at most other points on the river.

My health here improved very rapidly, and in less than three months I gained 8lbs. in flesh. The mercury at this post seldom falls below 50 or rises above 90. On the 14th of May, I received an order from the Secretary of War to report for duty to Gen. CARLETON, at Santa Fé. I arrived here on the 24th of the same month, and have been on duty here from that date. For months after my arrival here from Franklin, I suffered, to some extent, the same symptoms as described above; oppression about the chest, hurried respiration, &c.; my cough slightly increased. Last winter I endeavored to run a few rods from my office to the Post Office; was attacked with hemorrhage from the lungs, that confined me to my room for several days. Since then my health has gradually improved; am now quite strong and cough but little; am of the opinion that if I could have remained in Franklin for one year, my health would have been completely restored.

If any of your consumptive patients intend visiting this country for their health, advise them to make Franklin their *head quarters*. If the disease is not too far advanced, it might be of benefit to spend the summer months in Santa Fé, as our summers are cool and delightful. After receiving your letter of Aug. 30th, I wrote to Assistant-Surgeon JOHN BROOKE, U.S.A., on duty at Albuquerque, N. M., also to Assistant-Surgeon A. H. SMITH, U.S.A., on duty at Las Cruces, N. M., to send me reports and statistics from their posts on the points you required; I enclose them herewith for your information. I would here state that Albuquerque is 63 miles south of Santa Fé, altitude 5032 feet, and Las Cruces 277 miles south of Santa Fé, altitude 3970 feet.

Should have answered your letter long ago, but have been waiting for the reports from Drs. BROOKE and SMITH.

Yours very respectfully,

O. M. BRYAN.

LAS CRUCES, Oct. 17th, 1864.

DOCTOR:—It gives me great pleasure to comply, so far as I can, with your request of the 7th inst.

I regret to say that there was no meteorological register kept at this post during the year 1863. When I arrived here there was not even a thermometer in the hospital, and I have just received, for the first time, a hygrometer. I have had no register, except an old one which had been used by the Texans to keep a mess account.

The diseases most prevalent here are as follows, the percentage of each being stated from my impressions as to their relative frequency, not among the troops alone, but among the citizens also:—

Gonorrhœa,	20	Rheumatism,	10
Syphilis,	8	Miasmat. Fevers,	8
Diarrhœa,	20	Bronchitis,	3
Dysentery,	8	Pneumonia,	1
Conjunctivitis,	5		

There are two forms of miasmatic disease prevailing in this locality. The most frequent is a variety of intermittent, usually quotidian in the beginning, but becoming tertian under the influence of quinine, to which it yields completely in the course of six or eight days. It is very rare that all the phenomena of a "chill" are present, the first and third stages being often omitted, and the second stage represented by neuralgia or cephalalgia. Indeed, in many cases the periodicity is the only characteristic which points to a miasmatic origin. The other form is a mild type of remittent fever, showing a strong disposition to terminate in a number of days divisible by seven, and rarely exceeding twenty-one. This form of fever made its appearance about two months ago, and is probably owing to the large amount of rain which has fallen this year, and which has left a great deal of stagnant water in the vicinity. It is much more

prevalent among the citizens than among the troops. Of typhus fever I have not seen a single case; also, not one of simple typhoid.

Genuine pulmonary tuberculosis, I think, *never* originates in this section. I have seen two or three cases of hemorrhage from the lungs, but without any of the physical signs of tubercles. The natives speak of a rare disease which they call *consumcion*, but they locate it in the bowels. From the description, I judge that the term is applied to the wasting away, from chronic disease, of some of the chylo-poietic viscera.

The effect of the climate upon tuberculosis originating elsewhere is eminently favorable. During the eleven months that I have been here, several cases have come under my observation, all of which have been benefited in a marked degree. This season has been remarkably wet, and, therefore, comparatively very unfavorable, otherwise still greater benefit might have been derived. I am inclined to ascribe the advantages of the climate in this respect to the extreme dryness of the atmosphere, rather than to the altitude. The average fall of rain at Fort Fillmore, eight miles from here, is nine inches and a fraction, being less than at any other military post in the United States, Soccon excepted. I have enquired of Dr. Samaniego, of El Paso, with regard to tuberculosis in his locality, and he stated that he had seen only two cases among the natives during a practice of several years. Doubtless the result of protracted observation here would be similar.

I have seen several cases of scrofula among the natives, and both acute and chronic hydrocephalus are not uncommon. The mode of life of the lower class of the natives, which is in defiance of every hygienic law, undoubtedly conduces greatly to this result.

Rheumatism is exceedingly prevalent, both the acute and chronic forms. I think this is owing, at least in part, to the cellar-like character of the adobe houses, and the practice of keeping the floors constantly damp. Troops in tents are not more affected, I think, than they would be in the States.

I have seen but one case of erysipelas since I have been here,

and that was idiopathic. The readiness with which wounds heal has passed into a proverb among the laity. I have not seen or heard of a single case of tetanus. I have now in hospital a case of melanotic cancer, the only one which has come under my observation.

In the absence of meteorological observations for this post, I enclose a copy of some notes of observations at Fort Fillmore, taken some time since from the Army M. Register. The average mean temperature for each month for a period of five years, 1851–5, is given:—

Jan.,	44.47.	May,	71.32.	Sept.,	77.21.
Feb.,	48.93.	June,	80.92.	Oct.,	64.39.
March,	55.96.	July,	83.36.	Nov.,	51.22.
April,	64.39.	Aug.,	79.68.	Dec.,	46.45.

Lat. 32° 13′. Lon. 106° 42′. Altitude, 3937 feet.

This letter was furnished me by Assistant-Surgeon A. H. Smith, U.S.A., on duty at Las Cruces, for the past 13 months.

O. M. BRYAN.

Albuquerque, N. M., October 31, 1864.

The diseases which prevail in this locality are those which are common to most parts of the world, irrespective of climate or situation. So far as my observations have extended, there are no positive endemics. Syphilis, more especially the numerous forms it takes in the secondary and tertiary stages, is probably the most common disease. Rheumatism is very frequent. Pneumonia, bronchitis, dysentery, and diarrhœa, chronic disease of the liver, and the usual eruptive fevers, constitute the larger proportion of the remaining diseases.

Of typhus or typhoid fevers, tetanus, or cancer, I have never seen a case, and but few of erysipelas. The only cases of malarious fevers which have come under my notice were in persons who had had previous attacks; in fact, simply relapses brought on by some exciting cause. The effect of the climate on rheumatism is, I think, unfavorable, especially near and among the mountains, a few miles distant from the river. Genuine scrofula is exceedingly rare, if not entirely unknown. Those cases having the appearances of scrofula generally occur in persons whose

systems are tainted with the poison of syphilis, either acquired by the individuals themselves, or inherited from their parents.

The influence of the climate on tubercular consumption is, I should think, highly beneficial. I judge so from negative evidence, for I have seen but one well-marked case in this place, and that was in a soldier with whom the disease had made such extensive progress before he came to this country, that any other than a fatal result was physically impossible. I have never seen a case occurring among the natives of the country; although the manner in which the large majority of them live—improper and insufficient food, want of cleanliness, exposure to cold, and imperfect ventilation—is highly favorable to the production of tubercular disease. With the predisposing and exciting causes so prevalent, the almost total absence of it can only be accounted for by the elevation, and the peculiar salubrity of the climate.

The mortality among the native population of this country is fearfully large; and, looking at climatic influences alone, perfectly unaccountable. I have never seen statistics, but I should judge from observation that the population if at all on the increase, is very slightly so indeed. There have been no wars largely destructive of human life, and no emigration from the country; and yet the growth of the towns and villages is so slow as to be almost imperceptible, while there are but few of them that cannot boast of more than a century's existence.

A large majority of native children are small and puny at birth, and greatly deficient in *vital force*. This is attributable to two causes. The first is, the criminal practice of intermarriage between blood relations, which exists to a frightful extent, and produces the usual result, of imperfectly developed offspring. This custom is permitted by law, and *sanctioned* by the Church. The second cause is transmitted syphilitic taint. A large number of these children die at birth, or within a few days after. With the exception of a fortunate few, those who survive have insufficient food; their clothing—*if clothed at all*—is alike in the hottest weather of summer and the coldest of winter; through the day they run, unwashed and wild, through all manner of

dirt and filth; and sleep, when the nights are cold, in rooms densely crowded, and an atmosphere fouled by smoke, filth, and a careful prevention of all ventilation. With constitutions thus weakened and robbed of their vitality, it is no wonder that measles, hooping-cough, and scarlatina—diseases which, under the most favorable circumstances, are so often fatal to children —as well as the usual ailments attendant upon dentition, should find hundreds and thousands of easy victims. The puny abortions of humanity are swept away in frightful numbers by these diseases, and whole families are desolated by a single epidemic. If they have the stamina to resist the depressing influences by which they are surrounded in early life, and pass the age of puberty with vitality but little impaired, they nearly always pass into hale and hearty manhood. In fact, a New Mexican who carries a good constitution into middle life, stands a fair chance of seeing fourscore, or even a hundred years. They pass a "green" old age, and reach a *dry* one; and, if Sam. Weller's theory concerning the disappearance of postboys and donkeys be applicable to Mexicans and burros, it is not unreasonable to suppose that these desiccated specimens of mortality "venever they feels themselves getting stiff and past their work, just rides off in the usual way, to take their pleasure in some other vorld."

Could the present inhabitants of this country be entirely swept away, leaving behind them no traces of their superstitions, their follies, or their crimes, and the land peopled with a race who were uncontaminated by hereditary disease, and who lived according to the simplest teachings of nature, the result would be a state of physical perfection and longevity unknown to the modern world.

The above document has been furnished me by Assistant-Surgeon JOHN BROOKE, U.S.A., on duty at Albuquerque, for the past 22 months.

O. M. BRYAN.

ARTICLE V.

RUBEOLA COMPLICATED WITH PNEUMONIA.

BY P. J. WARDNER, M.D., of Springfield, Ill.

DR. DAVIS—*Dear Sir:*—In the fall of 1859, I witnessed the death of a promising young man with this serious malady, and was so much interested in the case that I gave much time and study to its treatment the following year. After which I resolved, should occasion offer, to make use of hyosciamus as a fundamental treatment; since which time I have never failed to control the disease with it to my perfect satisfaction. In my hands it has always acted as a specific. Usually, one prescription of it has completely overcome the rapid pulse, hot and dry skin, and pneumonic cough. I have long felt a desire to place the remedy before the profession, but have delayed for the purpose of ratifying my views by a thorough experience, and, having done so, I now offer this as a feeble contribution to medical science. The history of two cases may be advantageous to a clear understanding of its effect, and I herewith submit them:

CASE I. I was called, the 14th of Dec., 1859, to Mrs. N.; arrived at 6 P.M.; found the eruption had disappeared the previous day, and, thinking herself quite well, paid a visit to a neighboring house and returned in the evening, feeling some pain in the head, which increased until 4 in the morning, when sickness and vomiting supervened, and continued increasing up to my visit. I found the pulse beating 150 times per minute; skin hot and dry; lips parched, and tongue dry and red; and the distress at the stomach uncommonly severe, with a deathly sickness, almost incessant vomiting, and some cough. Ordered feet bathed in mustard water, and a cataplasm to epigastrum, to eat pounded ice, and take

R.	Ex. Hyosciamus,	gr. xxiv.
	Acetate Morphine,	gr. iij.
	Pulv. Acacia,	q.s.
	Ft. Pil. No. xij.	

S.—Take one every two hours.

15*th*, 8 *A.M.*—Vomiting ceased at 11. Pulse 110; skin moist; cough increased, with expectoration tinged with blood. Continue pills; apply linen saturated in an infusion of hops and vinegar to chest.

6 *P.M.*—Cough decreasing; sputa clearer; pulse 98; skin moist; had eaten a ginger cookie at 5. Continue treatment.

16*th*, 9 *A.M.*—Patient sitting up; sputa clear; bowels moved at 7; pulse 88; skin normal; passed urine twice since last visit.

℞. Quinine Tannate, ---------- gr. xij.
Ex. Hyosciami, ---------- gr. vj.
Confection Roses, ---------- gr. s.
Ft. Pil. No. vj.

Take one every six hours.

17*th*, 11 *A.M.*—Patient about the house. Continue pills one day. Discharged.

Case II. Capt. B. H. broke out with measles, on Sunday; eruption disappeared on Wednesday; on Thursday, was sent out with a scouting party in the rear of Memphis, Tenn.; returned on Saturday, and was placed in hospital and treated by Dr. —— for pneumonia following measles. The succeeding Thursday I was invited to visit the patient. Found a well-developed pneumonia, with restlessness; expectoration dark brown; a small wiry pulse; pallid countenance; a suppression of urine, and a dry, dirty tongue, with tenesmus. Advised,

℞. Ex. Hyosciamus, ---------- gr. xx.
Sulph. Morph., ---------- gr. iij.
Pulv. Columbo, ---------- q.s.
Ft. Pil. No. xvj.

One every fours, alternating with an infusion of juniper berries and buchu.

Four days after, I saw the attending surgeon, who informed me that his patient had from my visit rapidly improved; and I ultimately learned that he was returned to duty the 11th day after my visit.

I have given these two cases, because they were the worst I have treated with the remedy. For young children, I place a small pill of the extract in a cup and add minute doses of anti-

mony and morphine, or either, as the case may indicate, and add from four to six ounces of water. Then give a teaspoonful every two, three, or four hours, according to the circumstances and age of the patient.

SPRINGFIELD, Ill., Jan. 26th, 1865.

CORRESPONDENCE.

NEW YORK.

The Commissioners of Public Charity of this City have been sending, for the past nine months, all of their patients with typhus fever to Blackwell's Island for treatment. They are there placed in canvas tents, similar to the army hospital tents, for two objects: first, to seclude the cases to prevent the spread of the contagion; and, secondly, to give them plenty of fresh air. Dr. A. L. LOOMIS, of this City, has had medical charge, and treated them entirely with hygienic means—giving especial attention to ventilation. The number of cases continuously under treatment, has averaged seventy, or about six hundred in all. And not a particle of medicine, and no stimulants have been employed, and the result, so far, has been but one death in seventeen cases! This is certainly the most remarkable success ever obtained in the treatment of this disease, and seems almost incredible. But the statement is made on the authority of the Medical Board of Bellevue Hospital, under whose supervision these observations have been made. Your correspondent visited, several times during the winter, these typhus patients, and can testify that a large number of them seemed very dangerously sick, yet their only treatment consisted in giving them air as fresh as the heavens could distil it, with simple nourishment, and the result is certainly marvellous, in our eyes.

The number of cases of typhus fever treated in Bellevue Hospital for three years prior to the removal of this class of patients to Blackwell's Island—from June 1st, 1861, to June 1st, 1864—was nine hundred and eight, of which one hundred and

ninety-eight proved fatal, making one death in about four and a-half cases. Excluding those who died within forty-eight hours after their admission, the mortality was about one in six. Dr. MURCHISON, in a report of a large number of typhus treated in the London Fever Hospital, gives a mortality of one in five. Dr. M.'s treatment was the stimulant plan, and so in Bellevue. Dr. LOOMIS was induced to reject alcoholic stimulants from certain views which he entertained relating to the pathology of the disease. He had found, in making autopsies of twenty or thirty of the fatal cases at Bellevue Hospital, that the most constant morbid appearance met with was an intensely congested state of the kidneys. He had also found albumen and casts in the urine during the continuance of the disease, in a large number of cases. From these facts Dr. L. concluded that alcohol was contra-indicated as increasing the burden, and otherwise favoring the congestion of the kidneys. He resolved, therefore, to dispense with it in toto in the treatment of the cases on Blackwell's Island. Whether the very favorable results there obtained are partly due to this fact, or entirely to the hygienic measures, further observations must decide. It is a fact, however, worthy of note, that both Profs. CLARK and FLINT, in their lectures to their respective classes on the treatment of typhus fever, recommended the 'expectant' plan and a resort to stimulants only when great exhaustion supervened. The Profession here are looking with great interest for a paper on this subject, which Dr. LOOMIS has promised to read to the Academy of Medicine at its next meeting.

On visiting the wards of the New York and Bellevue Hospitals, one is struck with the number of cases of lead poisoning which are met with. The attending physicians have no difficulty in tracing the larger number of these cases to the use of beer, the article having been in contact with the lead faucet, or otherwise in lead pipe. It is a sad commentary on this beverage that it is largely chargeable with the damaged livers met with in almost every subject examined in the dead-house connected with these hospitals, but the additional credit of conveying into so many systems the terrible poison of lead. But,

thanks to our science, a sure remedy is found. That iodide of potash will eliminate the poison of lead —as well as mercury— from the system, has been demonstrated too often to leave any doubt on the subject. It is *the* remedy *par excellence* which is always prescribed here in these cases, and continued as long as chemical tests reveal the presence of lead in the urine.

The health of New York, at present, is in a deplorable state. Contagious and infectious diseases abound on almost every street. A Committee has canvassed the City and brought to light *fourteen hundred cases* of variola. And the Mayor has issued a proclamation, ordering every one vaccinated, and re-vaccination in every case where the operation had not been performed within five years. Typhus fever, typhoid pneumonia, erysipelas, and diphtheria are also very prevalent. Several physicians of the City are now in Albany, laboring with the Legislature to secure a Sanitary Reform, and are abundantly prepared to prove two facts that stand very much in the relation of cause and effect. First, that New York is the filthiest City on the Continent; and secondly, it is one of the most sickly. Figures prove the latter, and residents familiar with different sections of the City testify to the former. Broadway and Fifth Avenue are justly the pride of the New Yorker, and, it is said, are swept every day. But the vastly larger number of streets know no broom, and are strangers to the visits of the scavenger. If something is not done speedily to cleanse the City a pestilence may justly be feared.

The Profession here are already preparing for a large representation at the next meeting of the American Medical Association, in Boston. The stimulus afforded by the last meeting in this City, has aroused many to labor anew to promote the usefulness of our National Medical Council. It is expected, by many, that so large a "turn out" of "Medicos," the "Hub of the Universe" never witnessed as will meet there in June. These Annual Meetings of the Profession can in no wise interfere with the success of GRANT'S plans in conquering an honorable peace, or with Congress, in building a ship canal! If there ever is a time when medical men should meet for mutual con-

ference, it is during this time, when our country is making new and untried demands upon our life-saving profession.

R. P. J.

ARTICLE VI.

ALCOHOLIC STIMULANTS IN TYPHUS & TYPHOID FEVERS.

BY THE EDITOR.

We call the particular attention of our readers to the interesting letter of our New York Correspondent, contained in the present number of the EXAMINER. The facts he gives, in regard to the mortality of typhus when placed in pure air, and under good diadetic regulations, without any medication or stimulants whatever, compared with the mortality of the same disease treated with active alcoholic medication, are of very great importance. The results, as given by our Correspondent, are in exact accordance with what we should have expected; and fully corroborates what we have persistently taught to our classes, both in the clinical wards and in the College lecture-room, during the last fifteen years. We have never been surprised, that under the profuse administration of alcoholic liquids, the mortality of typhus fever patients should be 1 in 6 in Bellevue, or 1 in 5 in the London fever hospitals. For if there is one single fact in pathology well established, it is, that the blood in typhus is imperfectly decarbonized, that its fibrine is impaired in coagulability, and that the functions of the nervous and muscular tissues are greatly depressed.

Equally well is the fact established, by a score of distinguished experimenters, that alcohol, while in the human system, diminishes the decarbonization of the blood, retards the coagulability of the fibrine, produces an anæsthetic or depressing effect on the nervous centres, and diminishes organic changes. Hence we could never perceive a rational indication for the use of alcohol in typhus or typhoid fevers; unless we call that homœopathic *humbug, Similia similibus curantur*, rational. We

have attended the medical wards of the Mercy Hospital, in this City, for the last fifteen years. It is the only public hospital in the City, for the reception of fever patients, from the poorer classes of society; and during the period mentioned, there have been received and treated in its wards several hundred cases of typhus and typhoid fevers. And if all the alcoholic liquors prescribed for internal administration, during their treatment, were collected together they would not fill a half-gallon measure.

The wards were often overcrowded, and though always clean, were by no means capable of extra ventilation.

And yet, if we exclude those cases brought to the Hospital in a moribund condition, and which died in from one to three days after admission, the ratio of mortality, for each year, has varied from 1 in 15, to 1 in 25.

While the facts given, in the letter of our Correspondent, abundantly prove that plenty of pure air and simple nourishment is greatly more successful in the treatment of typhus than impure air and alcoholic medication, they by no means prove that no kind of medication is beneficial in that disease. On the contrary, from our own observations, we are convinced that, if Dr. LOOMIS, in addition to pure air and proper nourishment, had given his patients, judiciously, such medicines as are calculated to counteract septic or deteriorating changes in the blood; to lessen the tendency to irritation and disintegration of the mucous membrane of the ilium; and to increase the sensibility and action of the nervous centres in the more depressed cases, he would have reduced the mortality not only to 1 in 17, but to less than 1 in 20.

Selections.

ON THE PREVENTION OF ZYMOTIC AND CONSTITUTIONAL DISEASES: FEVERS; CHOLERA; CONSUMPTION, &c.

By Dr. E. D. MAPOTHER, Professor of Hygiene, and Medical Officer of Health for the City of Dublin.

The poison of scarlatina seems the most contagious of all its class, having the greatest infecting distance, and fixing with the greatest tenacity in dwellings, furniture, or clothes—fomites they are technically called. For this reason, when the disease breaks out in schools, it is generally politic to close them up entirely for some time. The heat of boiling water destroys the poison, and rooms or clothes in which the poison may be lurking should be thoroughly steamed or fumigated with sulphurous acid emitted from burning sulphur. The disease is inoculable, but the malady so produced being as severe as the ordinary kind, such an operation is not advisable. The most malignant epidemics of this disease from which Ireland has suffered were in 1801–2–3, and 1834.

Measles poison would seem to be nearly as contagious, for instances have occurred of the disease being carried by children's clothes packed in a box and sent from schools where the epidemic had broken out. In America, this disease has assumed a serious aspect, for 22,000 soldiers were prostrated by it during the first year's campaign. I may mention that Dr. Salisbury, of Ohio, has endeavored to prove that the measles poison owes its origin to a fungus which grows upon rotten straw. He inoculated himself, his wife, and twenty-seven other persons with this fungus, and in all an eruption similar to measles followed, and none of these individuals so protected caught the natural measles, which just at the time was strongly epidemic.

In connection with this subject, I may remark that Dr. H. Kennedy has published an interesting case, where a measles-like eruption followed the application of some mouldy flaxseed meal. Several hundred children, in France, are said to have been inoculated with the disease by inserting a tear from a patient into a puncture.

In my Introductory Lecture, I endeavored to impress on you that typhoid fever was about the most preventible of diseases,

yet 140,000 cases occur, and 20,000 at least die of it every year in England, and as the average age of its victims is 21, and all ranks are obnoxious to it, the very flower of the people is included. I will not dwell on the subject further here, save to remark, that in having pustules on the intestinal mucous surface, it resembles the diseases—small-pox, for example—which are characterized by peculiar eruptions on the skin. It is supposed that the seeds of this disease may dry up, and yet, like those of many plants, may germinate when submitted to favorable conditions. There is much greater risk of contagion from the decomposition of the poison in faulty sewers than from the atmosphere about the patients, and its progress is much more virulent when introduced by water drank than by air inspired. I enumerated many chemical destroyers or disinfectants of acknowledged efficacy, but I wish now to add to the list McDougal's fluid (crude carbolic acid), and McDougal's powder (carbonate of lime), which are cheap, convenient, and thoroughly reliable in eradicating this pest "born of putresence."

Typhus has always been Ireland's epidemic enemy, and is still five times as frequent in Dublin as London, in proportion to the population. You all must have read of the lamentable way in which this fever decimated the army, in past centuries, and the contagion was usually introduced in the following way: Commissions were formerly given to those who collected a certain number of recruits, and a promiscuous rabble, reeking with the seeds of typhus, was often obtained by ransacking the lowest haunts, and even the jails. In these latter places, so virulent was the poison, that the judges, witnesses, and others who were engaged in court, rarely escaped, as I could relate to you, if time permitted, from the writings of Lord Bacon. The intensity of the disease would seem now to be much less, for persons in a house with a typhus patient suffer little risk, and those in neighboring houses none. I have investigated some cases in which the inhabitants of a house were reputed to have caught typhus from patients in a neighboring one; but I have always found that the attack was due to an original focus, usually promoted by similar unsanitary conditions. If there be suitable arrangements for the exit of the infected air and the entrance of the fresh, I have never thought it necessary to banish relatives from the patient's house, for their affectionate solicitude is often more valuable than any hired services. I will now recapitulate the circumstances which recent pathologists assert to be promotive, if not productive, of typhus, and you will acknowledge they are all preventible. 1, overcrowding and defective

ventilation; 2, personal squalor, especially the wearing of clothes soaked in cutaneous exhalation, and dark-colored woollen stuffs have by far the greatest power of absording the poison; 3, a low state of system due to scanty or bad food; 4, a medium temperature.

As regards the most plainly malarious of diseases—ague—it used to prevail in Dublin and its vicinity; but owing to improved surface-drainage it has almost wholly disappeared.

The next group of the zymotic diseases is that of which the breathing organs are the seats, and among them influenza is the most clearly epidemic, the most rapidly diffusible, and the most largely fatal, at least 4000 persons in Dublin having succumbed to it in four months of the year 1837. Few old people escape if they are attacked; but Dr. Graves mentions a notable exception. He attended Judge Day, the contemporary of Goldsmith, at the age of 93, and he recovered perfectly. There are reasons for supposing that influenza is due to some specific poison floating in the air, and acting like the emanations from the sweet-smelling vernal grass which gives rise to that remarkable disease, "hay fever."

Whooping-cough, another zymotic, seems to be excited by some poison which acts exclusively on the branches of that widely-distributed nerve, the pneumogastric. That the poison is not solely aërial would appear from a child just born having had the disease, which must have been carried to it in the mother's womb. Quinsy, croup, and diphtheria, are other examples of this group of diseases, and in the prevention of all of them, ventilation, drainage of excreta, and removal of dampness, are hygienic measures of tried and positive efficacy.

Cholera, the most dreaded of the zymotic diseases, which choose as their seat the digestive canal, is, as I endeavored to explain on two previous occasions, communicated by a specific poison emitted from a patient already attacked, and carried to others through the water or air. It, therefore, follows the lines of human intercourse for the most part, but outbreaks do undoubtedly occur which allow of no such explanation. It first appeared in Dublin on 22d March, 1832, and arose in Cork on 12th April, probably from some new source of contagion (perhaps by the steamer which then plied between these cities), for Naas, which lies along the direct road, was not attacked till April 13th. That learned physician, Prof. Aitken, to whose comprehensive treatise I am indebted for many facts, relates the following exceptional case:—"In one of the Western Islands, the most remote from the mainland, the disease suddenly

appeared, where so little intercourse existed with the place that the clergyman of the island continued regularly every Sunday, for 18 months, to pray for King William the Fourth, as if he had been alive, after our gracious Queen Victoria had ascended the throne."

The cholera, which is endemic in these countries, prevails, for reasons I explained before, during hot dry weather, and is in London contemporaneous with the putrefaction and stench of the contents of the Thames, and a death in this city, from the same disease, has just been registered by one of our dispensary medical officers. When our water supply will be available, and our sewerage efficient, we may set at defiance even its awfully aggravated and epidemic form.

I will conclude what I have to say upon those zymotic diseases depending upon the introduction of a specific poison into the blood, by mentioning that Prof. Polli, of Milan, has energetically advocated the use of chemial antidotes to them—such as the sulphites—which are known to possess the power of checking catalytic action. If their curative efficacy be proved, they will become still more reliable in preventing the specific zymotic process consequent on the introduction of the poison.

On another occasion, I dwelt at perhaps sufficient length upon the influence of want of pure air in the production of consumption, which is so potent that the deaths among in-door artisans, such as tailors, shoemakers, weavers, and printers, from this disease are at least twice as frequent as among those who labor in the open air. Much may be done in the way of prevention, both by public and private hygienic measures. Under the former head, I include the opening of public parks and grounds, a close supervision of the establishments where people work in numbers, and the application of the most scientific preventives to the special injuries which many noxious trades inflict, and in such arrangements our French neighbors far excel us. Among means which lie in each individual's power are the fit ventilation of bedrooms, to which sunlight should have free access by a proper aspect, being chosen, and free exercise in the open air, with the habit of filling the lungs occasionally to the utmost, for by ordinary breathing their upper parts are not inflated, and remember a disused organ always suffers.

I must mention to you some remarkable facts with regard to the habits of those who have afterwards become consumptive—namely, that they have suffered from that kind of dyspepsia in which acid is too freely produced in the stomach, and that they have exhibited a constant dislike for fatty foods. The peculiar-

ity of their disgestion would then be that while albuminous food would be assimilated, the alkalinity of the saliva and pancreatic juice would be neutralized, and their respective functions—namely, the conversion of starch into sugar, and the taking up of fat, interfered with. The remedial powers of cod-liver oil, which insinuates itself so readily into the absorbents, may depend upon their supplying this want. The preventives of consumption are urged so enthusiastically by Dr. McCormac, that I shall sum up by giving you his list—the respiration of a pure untainted atmosphere by day and night—improvement of the artizan's *locale* and habits, including his bent and sedentary posture—the substitution of steam machinery for dry grinding and stone-chiselling—attention to the digestive and cutaneous functions—improvements in the aspects of houses and sleeping-rooms—increase of out-door pursuits—and lastly, full and free respirations in the open air. Dr. Aitken, Professor of Pathology in the Army Medical School, most justly remarks:—

"Experience has now adequately demonstrated, that the tuberculous cachexia springs from causes over which the public, rather than the medical profession, have control. The physician must be at once impressed with the belief, and encouraged with the hope, that when he acquires the confidence of the public in the practice of his profession, he may exercise a powerful influence for good in teaching how much they may themselves control the ravages of consumption by prudent marriages and sanitary attention to offspring. There are several circumstances which show the great influence of public sanitary measures in controlling the ravages of consumption when these measures are scientifically directed to the preservation of the general health, and especially when men are associated together in great communities—an influence much greater than the best directed efforts of the medical profession can establish through their *materia medica.* It is by the mode of life as citizens of the world, in the social relations of husbands and wives, parents and children, and in the public relation of masters and workmen, that the extent and ravages of consumption are to be controlled. It is by a strict attention to the rearing of offspring, and in the subsequent regulation of food, clothing, cleanliness, occupation, the choice of a profession, and by many other circumstances which have an obvious influence (perhaps at first sight inappreciable) on the maintenance of the general health, that our hopes of success as practitioners of medicine must rest in the prevention of that bad habit of body which developes and propagates the tuburcular diseases in civilized society.

Upon dietetic diseases I made a few remarks on a former occasion, and now, concerning one of them—namely, gout—I can tell you in a very few words all the measures which are preventive by quoting Abernethy's reply when asked, What was a cure for the gout? "Live on sixpence a-day and earn it," for temperance, exercise, and a freely acting skin, are among the hygienic requisites comprised in the aphorism.

As I have endeavored to elucidate, our tissues do not remain permanently ours, but are in health being constantly removed and renewed. Now, when renewal fails, and substances lower in the scale of human chemistry become deposited instead, we give the name of "degeneration" to the condition. The fatty form in which a tissue—the muscular, for example—is either chemically converted into fat, or is removed to give place to that substance, is the most frequent, and chooses such vital organs as the heart, brain (yellow softening), and the kidney (chronic Bright's disease). We are warned that sedentary habits are strongly promotive of this affection, for it was fatal to such prolific writers as Abercrombie, Pereira, and Thackery, and such industrious lawyers as Cresswell and Slade. The influence of the ingestion of too much heat-producing food to the exclusion of tissue-material we have already discussed; but it remains for me to explain the physiological effect of alcohol, which we shall find tends powerfully to the production of fatty degeneration. It checks the changes which our tissues are undergoing, interferes with the due oxidation of the blood, or the combustion of its waste material, and, according to many authorities, supplies material itself for the formation of fat, as more certainly does the sugar, which most of its preparations plentifully contain. Distilled spirits are, for this last reason, less promotive of fatty degeneration than other alcoholic liquors. I shall not now dwell on other evils of intoxication, lamentable though they are, save to say that it is not on the individual alone they work destructive changes, for his offspring, in addition to moral injury, undergo most manifest physical deterioration. In this way alcohol is one of the most powerful causes of that remarkable character of disease in the nineteenth century—namely, that while the mean lifetime of adults is becoming prolonged, that of children is being most perceptibly shortened.—*Dublin Medical Press.*

ON EPIDEMIC CEREBRO-SPINAL MENINGITIS, OR SPOTTED FEVER, WITH CASES.

By JOHN A. LIDELL, M.D., Surgeon U.S. Vols.

A very formidable disease, designated by some as "*spotted fever*," and by others as "*epidemic cerebro-spinal meningitis*," has recently attracted a good deal of attention in professional circles. Of this, the pages of the leading medical journals of this country bear ample testimony. Besides, it has, within a few months past, been the theme of discussion at the meetings of some of the most influential and important of our medical societies; for example, the Philadelphia College of Physicians, and the New York Academy of Medicine. And, of a verity, no one can justly doubt that a disease so sudden in its attack, so rapid in its progress, so fatal in its results, and about which we really know so little, as the one under consideration, is worthy of all the attention which the best minds in the profession can bestow. It is also a subject which challenges the earnest attention of the humbler laborers in the cause of science and humanity; and, actuated by this belief, the writer desires to place the history of the following cases on record, as a contribution, although but a small one, more especially to our knowledge of the pathological anatomy of this obscure, erratic, and formidable disorder.

It should be premised, however, that these cases occurred recently among the inmates of Stanton General Hospital, Washington, D.C., that they occurred in portions of the hospital widely separated from each other, and that no relation by contact, whatever, can be traced between them. The first, in point of time, appeared in ward No. 8, July 28, the second in ward No. 3, July 31, and the third in the hospital guardhouse, August 14. For purposes of description, the second case in the order of time will be presented first, because its general features are more clearly defined than those pertaining to either of the others. It should be stated further, that these are the only cases of this disorder which have ever appeared at this hospital.

Case I. *Cerebro-Spinal Meningitis.*—Private John Davis, Co. E, 8th Vermont Volunteers, 28 years old, and of a scrofulous diathesis, was admitted to Stanton General Hospital July 26, 1864, having an attack of intermittent fever, quotidian in type, and moderate in severity. He stated that, until recently, he had been serving in Gen. Banks' army, Department of the

Gulf. Quiniæ sulph. gr. v, every six hours, was prescribed for him, and a full diet was allowed. Under this treatment he improved rapidly, and his chills ceased after the first day. The quinia was continued, and he bade fair to return to duty speedily.

July 31, *morning.* He remained in bed, complaining of loss of appetite, and of feeling rather weak; his countenance expressed a good deal of anxiety, but there was no heat of skin, nor disturbance of the pulse, nor coating of the tongue. He said that, about midnight, he had been suddenly seized with great restlessness as he lay in bed. This lasted about twenty minutes, but he did not sleep till towards morning. He had no pain. The officer of the day being called, prescribed fluid extract of valerian for him in the night. At the morning visit he was also free from pain. The quinia was continued, and he was directed to keep his bed.

He got on well through the day until about 5½ o'clock P.M., when he was again attacked suddenly with great restlessness, and with irregular convulsive movements, closely resembling those presented by certain cases of hysteria; he became delirious, and uttered loud, shrill screams, at the same time tossing himself about very much, and throwing himself out of bed, unless restrained by the attendants; pupils dilated and symmetrical; no strabismus; pulse 100, and full, but there was no unnatural temperature of the skin; respirations about 14; no vomiting; could not be made to protrude his tongue, nor to swallow anything.

Treatment.—Ice was applied to the head and the spine, a sinapism was placed on the epigastrium, and a large turpentine enema was administered; the enema was repeated in an hour, but without effect in either case. No remedy was administered by the mouth, for the power of deglutition appeared to be lost.

At 7 *o'clock*, the pupils continued dilated; the respirations were 12; the skin was moist; the pulse 90; the restlessness diminished; but still he could not swallow.

At 9 *o'clock*, pupils dilated; respirations 12, but more labored; pulse 90, and weaker; less restlessness, and less screaming. After this, the screams were gradually replaced by low moans. He sank gradually into stupor, and died comatose at midnight, about 24 hours after the beginning of the attack, and about 6½ hours after its character was fully developed. Towards the last he was bathed in perspiration.

Autopsy ten hours after death.—Muscular system well developed; adipose tissue rather scanty; suggillations well marked

in depending portions of cadaver; rigor mortis strong; scattered over the back of the neck and the dorsal aspect of the shoulders are 25 or 30 *dark purple spots*, circular in shape, somewhat raised above the surrounding skin, with a well-defined margin, and varying in size from a mustard-seed to a pea. On incising them, it is found that they present an infiltration of dark-colored blood in all the layers of the skin, and, to some extent, in the connective tissue beneath. The spots are not arranged in groups. On superficial view, they presented considerable resemblance to leech-bites.

Cranium.—While sawing off the calvarium, and, subsequently, while removing the brain, *a large quantity of serum* colored with blood flowed away. It amounted in all to at least *six ounces*. Glandulæ Pacchioni unusually numerous, large, and adherent, for a subject of only 28 years. A moderate quantity of limpid serum beneath the visceral arachnoid membrane, especially about the vertex. The arachnoid has lost its transparency and become more or less opaque (opacified), especially in the same locality. A moderate amount of limpid *serum* in the *ventricles*. The choroid plexus in the fourth ventricle is thickened, pale-red in color, and presents a striking resemblance to a lamina of pale, flabby granulations, but the choroid plexus in the other ventricles presents no abnormity. The cerebrum, cerebellum, pons Varolii, and medulla oblongata were carefully examined. They were moderately congested throughout, but presented no other abnormal appearance.

Spinal canal.—On sawing through the posterior vertebral arches (laminæ) and removing them so as to open the spinal canal almost its whole length, it was seen that the theca vertebralis was distended, or, at least, well filled with serum, notwithstanding the large amount of cerebro-spinal fluid which had escaped while examining the brain. On laying the theca open, it was found that the spinal arachnoid membrane had lost its smooth, shining appearance, and was opacified (pearl-colored), throughout its whole extent. The subarachnoidean bloodvessels were everywhere intensely congested (active hyperæmia). The cerebro-spinal fluid was noticed to contain some thin, white flocculi in the lumbar region, but otherwise it was limpid. The structure of the spinal cord did not present any abnormity.

Thorax.—No pleuritic adhesions; both lungs strongly congested (*passive hyperæmia*); an *apoplectic extravasation* of blood, as large as a walnut, was found in the middle lobe of the right lung, at the fissure between it and the superior lobe; there was a large cicatrix at apex of left lung, and, beneath it, a vomica

inclosed by a thick membranous wall, and containing a quantity of whitish, cheese-like substance. The vomica was evidently undergoing contraction.* The heart exhibited rather more than the normal quantity of fat on its exterior, but in other respects was sound. The heart clots were small. The *blood* was much more *fluid* than natural, and a very large quantity of it flowed into the cavity of the chest on dividing the great vessels, while examining the thoracic organs. The abnormal fluidity of the blood constituted a marked feature of the case.

Abdomen.—The liver and intestines presented no abnormity. The kidneys were intensely congested, especially about the bases and cones of the pyramids, and presented a very dark-red, or almost brown color. The bladder was rather more than half full of amber-colored *urine*, which was found to be heavily loaded with *albumen*, on testing with heat and nitric acid.

Remarks.—The symptoms developed during life, and the pathological conditions revealed by the autopsy, show conclusively that the case belongs to the same category as those which have been described by numerous observers under the name of *cerebro-spinal meningitis.* On this point there is no room for a reasonable doubt. It is necessary, however, in taking a comprehensive view of this case, to observe that the pathological lesions were not confined to the organs located in the cranium and the spinal canal, but that the condition of the *blood* also was *markedly abnormal;* for it showed hardly any tendency to coagulate, remaining *preternaturally fluid* everywhere; while, at the same time, it manifested a very *strong tendency to extravasate*, which was denoted by the *pulmonary apoplexy* and by the *cutaneous purple spots.* It is, therefore, evident that the meningeal inflammatian did not constitute the whole of the case, by a great deal, and that the morbid process, or the disease itself, was not restricted to the cerebro-spinal axis and its meningeal investment. This view of the case is rendered still more probable by the fact that the kidneys were strongly congested, and that an abundant quantity of albumen was found in the *post mortem* urine.

As already stated, the patient died comatose. It might also be remarked, with perfect propriety, that he died asphyxiated, and in the following manner:—The respiration speedily sank to 12 per minute, while the pulse remained 90, and full. The heart continued to act energetically, and to force the blood with

* This was a tuberculous cavity in process of being cured, and was not only interesting *per se*, but also as occurring in a subject whose death was ultimately occasioned by another disorder.

abnormal rapidity into the lungs, while, at the same time, the respiratory movements were failing from increasing paralysis of the muscular apparatus by which these movements are accomplished. The blood, therefore, failing to be sufficiently decarbonized in the lungs, stagnated in those organs, and in this way was produced that passive hyperæmia, or pulmonary engorgement with venous blood, which was witnessed at the autopsy.

This motor paralysis of the muscles of respiration had a central origin, and was doubtless occasioned directly by mechanical compression of certain important nervous centres. The inflammatory process in the cerebro-spinal meninges was characterized by a very copious and rapid exudation of serum; so copious and rapid, indeed, that it might be styled an extravasation without any manifest impropriety. This serous fluid was, for the most part, poured out into the cavity of the arachnoid membrane. Some of it, indeed, was effused into the ventricles and into the sub-arachnoidean spaces, but the rest, and by far the largest part of it, was effused as already stated. This copious exudation of serum (about six ounces were found at the autopsy) in the cavity of the arachnoid membrane would tend to compress the brain and spinal cord alike. However this may be, it is certain that the organs located at the base of the brain and at the upper end of the spinal cord are very susceptible to pressure applied in this way. Thus it happened that the *functions of many nervous centres*, both sensitive and motor, were impaired, and finally *arrested*, by mechanical compression; and prominent among them was the *respiratory tract* of the medulla oblongata. Thus it happened that the patient lost the power to swallow from paralysis of the muscles of the pharynx, and the ability to breathe from paralysis of the muscles concerned in respiration; and he finally sank into stupor or coma, firstly, because the cerebral hemispheres were compressed, and, secondly, from the stupefying influence of the unaerated and highly carbonized blood which was circulating in the cerebral vessels.

The early death in this case, must, therefore, be attributed directly to the rapid exudation of a large quantity of serum into the cranio-vertebral cavity. Now, it is this wonderfully rapid and profuse outpouring of serum, which especially distinguishes the so-called epidemic cerebro-spinal meningitis from all other forms of inflammation of the membranes of the brain and spinal cord. For example, meningeal inflammation produced by violence exhibits an exudation of plastic lymph, or of pus, accompanied, for the most part, with but a small amount of serous effusion; and even in the cases of the so-called tubercular men-

ingitis, the effusion of serum, although copious, always takes place much more slowly, and on that account life may sometimes be prolonged to an indefinite period, even when the amount of the effusion happens to be very great.

Very rapid and profuse effusion of serum is, therefore, a distinguishing feature of the kind of inflammation of the cerebro-spinal meninges now under consideration, and indicates that we must look beyond the membranes of the brain and spinal marrow, into the state of the system at large, if we expect to raise ourselves up to a comprehension of the subject. It stamps this form of meningitis as having a peculiar character, dependent, in all probability, upon a peculiar constitutional condition, which renders it as much a specific disease as erysipelas or rheumatism. The peculiarity of the erysipelatous dyscrasia is, that it predisposes to diffuse cellulo-cutaneous inflammation; of the rheumatic dyscrasia, that it induces fibro-articular inflammation; and the peculiarity of the unnamed dyscrasia which we are now considering is, that it is often associated with a meningeal inflammation, which is characterized by a sudden and copious effusion of serum.

Case II. *Cerebral Meningitis with very Rapid Effusion.*—Private John Minsberger, Co. I, 90th Pennsylvania Volunteers, 40 years old, and sound in constitution, a patient at Stanton General Hospital, convalescent from resection of the left elbow-joint, had recovered so far that the wound of operation was healed, and he appeared to be in good health in every respect, having regained his flesh and strength.

On the morning of July 28th he arose, dressed himself, and went out to the pump for a drink of fresh water, as was his daily practice, and then returned to his ward, being, to all appearance, in usual health.

About 6 *o'clock* he was suddenly seized with a great pain in his back, between the shoulder-blades. He said it felt as if somebody was pressing a bar of hot iron into his backbone. A mustard plaster was applied, and he obtained speedy relief. He had no chill, and the attack appeared to begin without warning. After it was over, he got up and walked about the ward.

About 7 *o'clock* the paroxysm of burning pain returned; the sinapism was again applied, and he got relief in ten or fifteen minutes. He appeared to be sick at the stomach, and tried to vomit. His strength appeared to be good. He declined food, and had no thirst. This paroxysm was somewhat longer than the other. After it was over, he fell into a profuse perspiration, and slept an hour or two.

About 10 *o'clock* he was seized the third time with the same intense burning pain in the dorsal region, which he referred to the backbone. This paroxysm was much severer than the others, and he cried out for anguish. It also lasted much longer. There were no convulsive movements. The medical officer in charge of him, Acting Assistant-Surgeon W. B. Dick, U.S. Army, reported the case to me, stating that there did not seem to be much the matter with him during the intervals between the paroxysms, and I advised cupping of the affected part.

At 11 *o'clock*, on raising him up in bed for the cups to be applied, he was seized with the fourth paroxysm. He fell over on the shoulder of an attendant at once, exclaiming, "Oh, such pain!" and immediately became unconscious, as if in a syncope. At the same time his face became deathly pale, his eyes fixed, the muscular system relaxed, the radial pulse weak and fluttering, and the respiration was suspended, or, rather, he breathed at very long intervals only. I was hastily summoned, and in a few minutes saw him. The pallor of the face and lips had then given place to the livid hue of asphyxia; the eyes were open, fixed, and glassy, the right pupil was dilated, while the left was contracted; the muscular system was completely relaxed; no radial pulse was perceptible, and he took afterwards only three or four long, sighing inspirations, with long intervals between each of them, notwithstanding that ammonia was applied to the nostrils, and Marshall Hall's method of artificial respiration was faithfully tried. He breathed the last time about 11½ o'clock. His lips and face were then very livid. He had no thirst and no unnatural warmth of skin during any part of the five and a-half hours his sickness lasted. He did not exhibit petechiæ or any other kind of spots.

Autopsy by Assist.-Surg. George A. Mursick, U.S. Vol., six hours after death.—Body well developed; no emaciation; no rigor mortis. Upon removing the calvarium, about 4 oz. of blood and serum flowed out. The veins and sinus of the brain were congested with fluid blood. There was a moderate amount of subarachnoid effusion over the hemispheres, and the ventricles contained about an ounce of serum. The spinal canal was opened from the occiput to the sacrum. The spinal cord and its membranes appeared healthy, and there was no congestion of them.

Thorax.—The lungs were intensely congested with venous blood; otherwise healthy. There were about 8 oz. of serum contained in both pleural cavities. The pericardium contained

about 2 oz. of fluid. The heart was slightly hypertrophied; the mitral valves were slightly thickened, the tricuspids were a good deal thickened by a new deposit between the folds of the endocardium. The aortic and pulmonary valves were normal. There was no insufficiency of any of the valves.

Abdomen.—All the abdominal viscera were healthy, except the kidneys; they were in a state of acute congestion, and of a bright maroon color. The urine contained albumen; it was obtained at the autopsy.

Blood.—There was no coagulation of the blood. It remained fluid everywhere, was dark in color, and flowed freely wherever an incision was made into the body.

Remarks.—While perusing the account of the *post mortem* examination of this case, it is probable that the reader has not failed to notice a strong similarity between the anatomico-pathological lesions presented by it and by the preceding case. In both of them a large amount of serous effusion was found in the cranio-spinal cavity, the lungs were engorged with venous blood, the kidneys were congested, the urine contained albumen, and the blood presented a remarkable fluidity in every part of the body. It will thus be perceived that the morbid process was essentially the same in both instances, and that, however much they may differ in other and minor particulars, it was the same disease which brought both of these men to an untimely death.

Among the points of dissimilarity we may notice, first, that in the case under consideration the effusion of serium upon the cerebro-spinal axis and into the ventricles of the brain was much more sudden and rapid than in the preceding case. Indeed, it was so sudden and rapid as to produce "shock." It caused him to fall over on the shoulder of an attendant, and immediately become unconscious, as if in a syncope. At the same time a deathly pallor overspread his countenance. Subsequently his face became livid, in consequence of pulmonary congestion, and in a short time he expired, the respiratory function having failed the first of all. Here is presented before us the whole of that group of fatal symptoms which Dr. Watson and others have described under the title of serous apoplexy. Now, the term serous apoplexy is, doubtless, well enough, so far as it goes. It expresses exactly the way in which death took place in this case, but it gives no idea whatever concerning the morbid process at large, which occasioned the abnormal fluidity of the blood, the albuminous urine, and the tendency to serous extravasations, which were developed in this patient. It

signifies that the patient was stricken down, as by a blow, from sudden effusion of serum upon the great nervous centres, and thus denotes or represents a peculiarity of the particular instance of disease, rather than the disease itself, considered as an entity.

Another point of marked dissimilarity was exhibited in the clinical history. Minsberger complained, at short intervals, of suffering intense pain. He expressed himself as feeling, at times, as if a bar of hot iron was being pressed into his backbone, but had no convulsive movements. Davis, on the other hand, did not complain of pain, but had convulsive movements. But, as heretofore stated, the essential features of both cases present a great similarity to each other.

Case III. *Meningitis.*—Private Simeon Bond, 37th Co., 2d Battalion V.R.C., aged 25, and of feeble constitution, was admitted to Ward No. 7, Stanton General Hospital, Acting Assistant-Surgeon W. B. Dick, U.S.A., on Sunday evening, August 14, 1864, from the quarters of the hospital guard, to which he belonged. He had been unwell for several days, complaining of debility and loss of appetite, and the officer of the day had excused him from duty on that account. He had not been confined to bed. The orderly sergeant thought him to be slightly out of his head on the day before he entered the hospital (Saturday), and noticed that he ate nothing.

When admitted to the hospital, he was feverish, thirsty, and sick at the stomach, but did not vomit; said he had headache, and felt sick and weak; did not have chills, nor complain of any other pain; pulse about 90. Prescribed the neutral mixture and aconite. That night he was restless, and slept but little.

Monday, 15th. He was light-headed, and did not seem to realise where he was; he wanted to get up and steal away, but was quiet withal. His head was hot, his eyes somewhat injected, his tongue furred, and his pulse 95, and stronger. Ordered the ice-bag to the head, a brisk purge (pil. cathartic. comp. No. 3), and spiritus mindereri in combination with vin. antimonial. and nitric ether. A dose of morphia was administered in the evening, and he passed a better night. He had pain in the head, but none whatever in the spine or any other part of the body.

Tuesday, 16th. Patient lies in a stupor, from which, however, he can be roused without much difficulty; pupils somewhat dilated, and symmetrical; eyes more injected; pulse about 80, and full; respiration slower than natural, but deep and regular; has mild delirium, and complains of headache, but sinks

back into the stupor again as soon as the disturbance ceases; has no spasms of any kind. Ordered the hair to be cropped short; emplast. cantharid., 4 by 6, to nape of neck; sinapisms to the epigastrium and to the inner side of his thighs; and quinia in full doses. His bowels had moved freely.

He did not improve; the stupor grew more profound, and he died comatose that night, about 11 o'clock, something more than 48 hours after he entered the hospital.

No autopsy, for the body was sent away next morning at daylight, for interment at a distance, before it could be conveniently examined. No spots on his body were noticed. The febrile movement was well marked. He did not have any convulsions. There was no symptons whatever indicative of a spinal lesion. The symptoms all pointed to a meningo-cerebral lesion.

Pathology.—On looking into the recent literature of the subject, the writer finds that the anatomical lesions revealed by *post mortem* examination of the cases which he has narrated bear a striking resemblance to, or, indeed, are almost identical with, those presented by Dr. Jewell's case of "*spotted fever*," which is reported in the Transactions of the Philadelphia College of Physicians (vide *American Journal of the American Sciences*, pp. 130, 131, July, 1864). This patient was a male, aged nine years, and died comatose after a sickness of but 48 hours' duration. He had vomiting, headache, dilated pupils, convulsive movements, and petechiæ during life. At the autopsy, made 24 hours after death, the vessels of the dura mater were found to be markedly congested with fluid blood; there was a copious effusion of serous fluid in the subarachnoid spaces and in the ventricles of the brain; there were about two ounces of serum in the pericardium; heart-clots small, very black, softish, and not unlike currant-jelly. The kidneys were strongly congested. The blood in the cardiac veins, in the mesenteric veins, and, indeed, in every part of the body examined, was abnormally fluid. There were some purpurous spots here and there upon the mesentery; and on incising one of the cutaneous petechiæ, it was found to consist of an ecchymosis in the substance of the true skin, and not of a mere effusion beneath the cuticle.

The *pathological lesion* most constantly presented by the disease under consideration appears to be that of the blood. It was exhibited in a marked degree by the several cases cited, and presented a singular uniformity in all of them. No matter whether the disease ran its course in five and one-half hours or two days, the blood retained a remarkable fluidity and a dark

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red color after death in both alike. No so, however, with the lesion of the cerebro-spinal meningis. In Case I. we found that the membranes of both the brain and the spinal chord were involved in the inflammatory process. In Case II. the *post mortem* traces of inflammatory action were confined to the brain alone. In Case III., also, the inflammatory lesion, as denoted by the clinical history, affected the brain and its membranes alone. In Dr. Jewell's case, just now referred to, both the brain and the spinal marrow were involved.

But this remarkable disorder may even march on to a fatal termination without the occurrence of inflammation (active hyperæmia) in any part of the cerebro-spinal meninges, as happened in Dr. Levick's case of "*spotted fever*," which is reported in the Transactions of the Philadelphia College of Physicians (vide *American Journal of the Medical Sciences*, p. 136, July, 1864). This patient was but 18 months old, and died after being sick but 14 hours. The case exhibited a very strong hemorrhagic tendency. The autopsy was made 25 hours after death, and showed that the surface of the body was everywhere mottled, that there were vibices on the knees, and petechiæ on the legs; that the vessels of the dura mater were filled with dark fluid blood; that the substance of the brain and medulla oblongata was natural in appearance and consistence; *that there was no effusion in the ventricles, and the most careful examination failed to detect the slightest evidence of inflammatory exudation.* As in the other cases to which reference has been made, the blood presented a remarkable fluidity in every part submitted to examination. The lungs contained a large quantity of fluid blood. The left ventricle of the heart contained two soft clots, each about the size of a pea. The right ventricle did not contain any clots, and the blood therein was thin and fluid, looking not unlike claret wine. Numerous extravasations of blood were also found in various parts of the body. A large ecchymosis was discovered beneath the pericranium, near the saggital suture. The intestines were everywhere dotted with minute extravasations of blood, both on their outer and inner surface. Similar ecchymoses were found on the bladder, in the kidneys, and on the diaphragm. In all the other cases we found an abnormal exudation of serum associated with inflammatory action in some part of the cerebro spinal meninges. In the case of this infant we did not find any cerebro-spinal inflammation whatever; but, in place of exudation of serum, there were numerous and remarkable extravasations of the blood itself, discovered in various parts of the body. It is not improbable that

many cases of the so-called purpura hemorrhagica, especially those occurring during the infantile period of life, and being accompanied with febrile movement, belong in reality to the same category as the disease under consideration. Indeed, the writer himself is inclined to believe that he has seen some cases of this sort in time past.

Is the so-called "*spotted fever*" a form of *typhus petechialis?* Are they cognate diseases? It is true they bear considerable resemblance to each other in two important particulars, viz., both of them are blood diseases, and both of them are apt to be associated with cutaneous ecchymosis (petechiæ). But here the resemblance ends. If we examine their clinical history with a critical eye, we find that they differ from each other as widely as typhoid fever differs from measles. For example, spotted fever often runs its course in a few hours; typhus requires at least several days. Spotted fever is frequently attended with convulsive movements; typhus is never so accompanied. Spotted fever patients often die very suddenly and unexpectedly from coma and asphyxia, the *modus operandi* of which has already been explained; typhus patients do not die in this way. The eruption in spotted fever frequently appears on the first day, as it did in the case of Davis, also in the case of the young lad reported by Dr. Jewell, and in the case of the young child reported by Dr. Levick; while in typhus the eruption does not appear till the end of a week or more from the commencement of the prodromic symptoms. Thus clinical observation shows not only that these two diseases are not identical, but that they are in reality entirely distinct from each other..

What then is the true nature of the disorder under discussion? This question does not admit of a complete answer in the present state of our knowledge; but, at the same time, as has already been shown in this paper, there is good reason to believe that the so-called spotted fever, or epidemic cerebro-spinal meningitis, is a *specific disease* dependent upon a specific dyscrasia; that it is also a *blood-disease*, in which respect it is analagous to all other dyscrasic disorders; and that it is often accompanied with a sudden and copious exudation of serum into the cranio-vertebral cavity, or with extensive extravasations of the blood itself in various parts of the organism; *vide* the pulmonary apoplexy in the case of Davis, and the numerous and extensive ecchymoses in Dr. Levick's case.

In the course of the discussion on cerebro-spinal meningitis before the New York Academy of Medicine, April 20, 1864, Prof. Clark stated that he "was inclined to doubt whether the

right name had been found for the disease; in some cases the brain and spinal cord were involved in the inflammation, and so far the term cerebro-spinal meningitis was correct enough; but in other cases the inflammation was limited to the brain; while in still other cases the brain and cord escaped altogether, and the inflammation spent its force upon the pericardium, pleura, and even upon the lungs. That being the case, the disease, in his opinion, was due to a condition of the system in which there was a tendency to inflammation, and the inflammation might show itself in one part of the body or another, dependent upon circumstances which we cannot at first appreciate." (Vide *American Medical Times*, May 14, 1864, p. 237.)

The results of our investigations strongly corroborate the views of Prof. Clark. For we found in Case I. that the disease manifested itself locally, by producing an inflammation of the arachnoid membrane of both the brain and spinal cord; in Case II. that the disease expended its force mainly on the cerebral arachnoid alone; in Case III. that the disease made its advent by impairing first the functions of the brain as the organ of the mind, subsequent to which fatal cerebral meningitis supervened, the spinal marrow being not involved in any way; and in Dr. Levick's case, that the disease expended its force in producing extravasations of blood beneath the pericranium, the diaphragmatic pleura, in the coats of the intestines, in the kidneys, and on the bladder, there being no inflammatory action whatever about the brain, spinal cord, or any other organ in the body. The conclusion is irresistible that the disease itself consists of a pathological condition of the system at large, whereof the various local lesions enumerated above are but the accidental manifestations. It has also been conclusively shown that this morbid condition of the system is accompanied by a strongly marked pathological condition of the blood, the most striking feature of which is, that its coagulability is almost entirely destroyed.

Is this disorder communicable from one person to another? On this point the evidence furnished by our observations is entirely negative in character. As already stated, each of these cases occurred in a distinct portion of the hospital, and no relation by contact can be traced between them. The disease did not spread to the other patients occupying the same ward, or the same quarters, in a single instance. But this fact does not by any means prove the disease to be uncommunicable, for it should be borne in mind that these hospital wards are as thoroughly ventilated, clean, and wholesome as our present knowledge of hygiene enables us to make them. It cannot be ex-

pected that diseases which are not strongly contagious will spread in such a place and under such circumstances. At the same time the writer does not doubt that, under circumstances favoring its development, the disease may radiate from the localities in which it first appears, and thus conform to one of the laws regulating the spread of infectious disorders in general; and he also does not doubt that, under favoring circumstances, it may be communicated from one person to another.

The cases which came under our observation were probably produced by some kind of an epidemic influence, which we are not able to appreciate with our present lack of knowledge concerning this disease, as well as the occult causation of epidemic diseases in general. The *influenza* did not prevail at the time; indeed, there was not a case of influenza then in the hospital. This fact is mentioned because some have been inclined to think that spotted fever is only and exalted form of influenza.

While speaking of the epidemic origin of the disease, as it appeared at Stanton Hospital, it is worthy of remark that our first case, in point of time, occurred July 28th, and terminated fatally in five and one-half hours; that our second case occurred three days afterwards, July 31st, and terminated fatally in twenty-four hours; and that our third case died August 16th, after three days' sickness. This progressive diminution in the severity of type of the disorder from the first to the last case is either a remarkable coincidence, or (what is more probable) it shows that the special zymosis which produced the disease in question was also progressively diminishing in point of intensity.

Treatment.—Candor compels us to state that the remedial measures employed in our cases were not productive of much benefit. Davis lost the power of deglutition so early that the range of medication in his case was very much restricted. Even the stimulating enema failed to operate, apparently from paralysis of the muscular coat of the large intestine; and when it was repeated a short time afterwards there was still no effect, in all probability for the same reason. There is no reason to believe that the ice-bags applied to his head and spine did any good. In the case of Minsberger, the counter-irritation (sinapisms) seemed to afford some relief from the excruciating pain between his shoulder-blades; but, at the same time, it is not by any means certain that his paroxysms of pain were either shortened in duration or moderated in severity by these applications. In the case of Bond, neither the brisk purge, nor the aconite, nor the antimony, nor the blister on the neck appeared to have any effect in retarding the onward progress of the disorder.

The only remedy which seemed to benefit him was morphia, which, administered in the evening, enabled him to pass a better night. But notwithstanding this, he also, like the others, finally sank into stupor and died comatose. This analysis of the treatment employed in these cases has been made for the purpose of illustrating an instructive part of their clinical history.

All of these patients died from effusion of serum upon some part of the cerebro-spinal axis. Now, any plan of treatment, to have been successful, must either have prevented the effusion of the serum, or caused its absorption prior to the occurrence of fatal compression of the nervous centres. The remedies which we employed did not accomplish either of these desirable results. The question next arises whether there is any therapeutic agent at our disposal suitable for such a purpose. In the opinion of the writer we have such a remedy, and it is opium. It has for a considerable time been well known to many persons that opium, especially when administered in large doses, possessed a marvellous power in the way of arresting exudation from serous membranes. This property of opium has probably been most strikingly exhibited in the treatment of peritonitis with a suppurative tendency; for example, puerperal peritonitis; but its efficacy has also been fully proved in the management of inflammations of the thoraric serous membranes. But at a time like the present, when opium or its chief alkaloid is so extensively and successfully employed in surgical practice for the cure of traumatic peritonitis, it is not necessary to say any more on this point. And, entertaining these views, the writer is fully determined to give opium a fair trial in the treatment of spotted fever, if it should ever be his misfortune to again encounter that formidable disorder.

But the employment of opium in the treatment of epidemic cerebro-spinal meningitis is no new thing. Dr. Miner long ago strongly recommended its use in large doses. He said: "A few cases imperiously required half an ounce of the tincture of opium in an hour, or half a drachm in substance in the course of twelve hours, before urgent symptoms could be controlled; and even some cases required a drachm in the same time. All those patients whose symptoms were promptly met with opium invariably recovered." (Vide *Miner on Typhus Syncopalis.*)

According to Dr. Hartshorne: "The only treatment in which, after considerable experience, Boudin placed any confidence was that in which opium was used remedially. An *opiate sleep* was often followed by convalescence." (Vide *Am. Jour. of Med. Sciences*, p. 94, July, 1864.)

Not long since Dr. Walter F. Atlee treated ten cases of epidemic cerebro-spinal meningitis at St. Vincent's Home, in Philadelphia, with gratifying success, although nine of them were young children from two to four years of age. The treatment consisted in the application of irritants to the back, and in the administration of opium, the patients' strength being supported at the same time with brandy, wine-whey, and essence of beef. (*Op. cit.*, p. 95, July, 1864.)

Some have expressed a great deal of confidence in the efficacy of sulphate of quinia administered in large doses. But according to our experience, however useful this remedy may be for the removal of a malarial complication, it exerts but little if any influence upon the disease itself. For in the case of Davis the disease appeared in a very severe form while he was taking five grains of quinia three times a-day, and in the case of Bond large doses of that remedy did not produce any perceptible effect whatever.—*Am. Jour. Med. Sciences.*

TWO CASES OF PYÆMIA, OR PURULENT INFECTION, WITH RECOVERY; IN WHICH THE BISULPHITE OF SODA WAS ADMINISTERED.

Communicated by WALTER F. ATLEE, M.D.

The history of the following two cases is communicated because I am fully persuaded that they were cases of pyæmia. They were treated by a new method, from which extraordinary results are said to have been obtained in other countries; and by all other treatment, so far as I have seen, well-marked, undoubted cases of pyæmia have invariably proved fatal.

Nélaton says that *pyæmia is always fatal*, and adds that in the cases of cure which some surgeons suppose that they have seen, they allowed themselves to be imposed upon by certain circumstances which may lead, in these cases, to an error in diagnosis. (*Elemens de Path. Chirurg.*, vol. i. p. 167.) The authors of the *Compendium de Chirurgie Pratique* (A. Bérard and Denonvilliers) say that the gravity of a disease, the principal condition of which is the infection of a liquid, destined to circulate through and nourish every part of the body, is at once understood—"*such, in fact, is its gravity, that art has so far remained powerless against it.*"—(p. 386.)

I have thought it proper to cite these authorities as to the invariable fatality of pyæmia, inasmuch as it is supposed by per-

sons of comparatively small experience and powers of observation to be not unfrequently cured. I have seen, myself, a large number of cases of pyæmia, and the two which are here reported are the only ones that recovered.

The treatment instituted in these cases was in accordance with that first recommended and practised by Prof. Polli, and brought to the notice of the profession in this country in the numbers of this Journal for October, 1862 (p. 513 *et. seq.*), and for April, 1863 (p. 467 *et. seq.*). Prof. Polli has succeeded in establishing that not only does sulphurous acid possess the property of arresting fermentation, and neutralizing catalytic action, but that its alkaline and earthy compounds have also the same power, and, moreover, that they can be administered with the greatest impunity, even in large doses. Pyæmia, or purulent infection, which latter name is preferable, though the other must be employed, since it is generally adopted in this country, is a disease that depends essentially on the presence in the blood of an organic poison, which acts as a ferment, and multiplies itself. Until the announcement of the discovery of Prof. Polli, no substance was known that could destroy a catalytic poison, without, at the same time, so altering the blood itself, as to render it incapable of performing its vital functions. Bernard has declared that the neutralization of such poisons is impossible. (*Lecons sur les effets des substances toxiques et medicamenteuses*, p. 99.)

Case I. Reported by Joseph B. Roe, M.D., A.A. Surgeon, U.S.A. Ezra Reagles, private, Co. A, 36th Wisconsin, aged 30, by occupation a farmer, was admitted to Ward 3, Satterlee U.S.A. General Hospital, West Philadelphia, Pa., August 20, 1864, from Field Hospital, City Point, Va. Wounded at Deep Bottom, Va., August 16, 1864, by a minie ball, which fractured metatarsal bones of left foot. Patient and wound in good condition at time of admission, and continued so until August 28th, when gangrene set in. From this date until September 4th, the gangrene rapidly spread, so that nearly the whole of the upper part of the foot was involved. Sugar, which had heretofore been so successfully used in the hospital, in the treatment of all gangrenous wounds, was applied at the first appearance of the gangrene, but to no good purpose. The character of the wound and the condition of the patient became such, that it was decided to amputate the foot, which was accordingly done, September 5th, about three inches above the ankle-joint. The patient did remarkably well until September 12th, when he had a violent chill, and complained of severe pain, upon pressure, over

the region of the liver. The chills returned on the 13th, 14th, and 15th. The flaps had, by this time, sloughed away so as to leave about two inches of the bones exposed. At the first appearance of the chills one (1) drop of nitro-muriatic acid, in the infusion of quassia, was administered thrice daily, with beef tea, milk punch, &c., until Sept. 14th, when, at the suggestion of Dr. Walter F. Atlee, eight (8) grains of the bisulphite of soda was ordered every four hours. From the 18th the patient commenced rapidly to improve, and no untoward symptoms made their appearance up to November 8th, 1864, when the patient was transferred to Ward A, in consequence of the vacation of Ward 3. The general health of the patient at this time was remarkably good, the exposed bones had exfoliated, and the stump nearly healed.

Case II. Reported by A. A. Smith, M.D., A.A. Surgeon, U.S.A. Private John C. Friesman, Co. H, 8th New York Heavy Artillery, aged 51, and by occupation a painter, was admitted from Field Hospital, City Point, Va., August 20th, 1864, with a gun-shot flesh wound of both legs, received at the battle near Malvern Hill, Va., August 16th, 1864. The ball—minie—passing transversely through the middle of the middle-third of the left leg, between the soleous and gastrocnemius muscles, producing a severe flesh wound; thence through the middle-third of the right leg, anterior to the tibia, producing a slight flesh wound, and denuding the tibia of periosteum, along the track of the ball. On admission the patient's general health was considerably impaired by the exposure and hardships of active field duty. Wound suppurating very little, and the discharge was of a very unhealthy character. Ordered tonics, stimulants, and water-dressings. Up to October 2d, nothing of importance occurred. The patient's general health seemed to suffer from the suppuration, which became excessive after the twelfth day. On the morning of the 2d, he had a severe chill, followed by slight febrile reaction, then a profuse clammy perspiration, and low, muttering delirium; features blanched and sunken. Oct. 3d, 4th, 5th, 6th. Heavy chills and delirium. The patient apparently sinking rapidly. Oct. 7th, 8th. Chills not so marked; less delirium, and general appearance improved. Oct. 9th. A very light chill, and very little perspiration. Immediately after the appearance of the first chill, on the 2d of October, the bisulphite of soda was given in gr. xx doses every two hours, which was continued until the 12th, after which twenty grains were given twice a-day until the 1st November, when it was stopped. Milk punch, beef es-

sence, and f℥j of the following mixture every two hours were also given: Quinia sulph. gr. xxiv, tinct. ferri chlor. f℥ss, syr. simpl. f℥iss, aqua cinnam. f℥iv. Oct. 12th. A slight rigor; suppuration from wound a little more healthy; general appearance decidedly improved, and some desire for food. Oct. 20th. *Decided* improvement; very little suppuration, and the wound granulating; no return of chill, and the mind perfectly clear since the 12th inst. Nov. 1st. Able to sit up; wound healing rapidly. Nov. 17th. General health much better than when admitted; appetite good, and wound closing rapidly; walks about on crutches.—*Am. Jour. Med. Sciences.*

ON THE TRANSFORMATION OF ALKALINE SULPHITES IN THE HUMAN SYSTEM.

By M. CAREY LEA.

In connection with some interesting observations on the physiological effects of the alkaline sulphites when taken into the human system, as made by my friend Dr. W. F. Atlee, it has appeared to me that a brief account of a few chemical examinations made upon the same subject would not be altogether devoid of interest, especially as the indications are that these remedies are destined to play an important part in the relief of certain obscure and fatal forms of disease.

My first experiment was directed to observe, if possible, whether, after the administration of an alkaline sulphite, any free sulphurous acid was eliminated in the stomach; and if so, whether or not this would be reduced in that organ to the form of sulphydric acid or not.

As the gases set free in the stomach are carried off by the breath through the mouth, the following arrangement was adopted: a little very dilute ammonia was placed in a test-tube, and then, through a bent tube, the breath was driven through, in a period of from three to five minutes. The liquid was then tested by a lead-salt for HS, and afterwards with zinc and chlorydric acid for sulphurous acid, the hydrogen liberated being conducted over paper moistened with a lead-salt. Other portions were further examined by boiling with nitric acid and testing with chloride of barium, for sulphuric acid resulting from an oxidation of sulphurous acid.

The first trial was made two hours after swallowing thirty-

three grains of bisulphite of soda. Neither the presence of SO_2, nor of HS could be detected by the foregoing methods.

In the second trial the sulphite was taken in a highly alkaline form. Thirty-three grains of monosulphite of soda in solution with twelve grains of bicarbonate of potash were swallowed, and three-quarters of an hour afterwards the breath was tested as before. No HS could be detected, but there were extremely faint traces of SO_2.

As respects the condition in which a sulphite would pass entirely through the human system, there could evidently be but two alternatives: it must either pass through unchanged, or must undergo oxidation and pass out as a sulphate.

In order to determine the point, the urine was examined. One hundred grains of monosulphite of soda were taken daily, in three doses of thirty-three grains each, and a large number of examinations were made of urine voided at various hours in the day. About two ounces were used in each trial, and the examination was made to ascertain whether any alkaline sulphite could be detected.

When the administration of the salt was first commenced, only very faint traces of sulphite could be detected, almost the whole appearing to be oxidized in the system; but on each succeeding day, the tests indicated an increasing quantity of sulphite, until large black stains were regularly obtained upon lead-paper, by exposure to the sulphydric acid obtained by the reduction of the sulphite.

In view of the powerful deoxodizing properties of the sulphites, it seemed probable that their administration would cause a depression of circulation, and observations were made to ascertain whether this would be the case. To afford a term of comparison, an observation was made on the state of the pulse two days before commencing the treatment:—

	Pulse at end of morning.	Pulse at end of afternoon.
Nov. 11. Before the treatment was commenced.....	78	73–4
" 13. Treatment commenced.....	81	74
" 14. " continued.....	81	75

The sulphite seems thus to have been without effect, or if any result was produced, it was rather a slight acceleration than a depression.

The conclusions to be drawn from the foregoing—at least so far as one case is capable of leading to conclusions—are that: 1st, when sulphite of soda is taken into the stomach, no sulphydric acid and a mere trace of sulphurous acid are evolved in the

free state; 2d, that whilst the greater part of the sulphite is oxidized in passing through the system, some portion escapes this transformation, especially after the first few days of regular administration, and appears in the urine as unaltered sulphite; and 3d, it would seem to be indicated, *in this particular case*, that one hundred grains a day is as much, or more, than is capable of transformation in the system, and, therefore, of exercising its particular function, since even the whole of that was not found to have undergone oxidization. As the sulphite is often given with great advantage in much larger doses, I draw the last conclusion with great reservation, and not decisively. It seems probable (as indicated in a case which Dr. Atlee has mentioned to me, and which is published, p. 84) that very much larger doses are supported easily, and given with advantage. As the excess, if any, does not appear to be hurtful, I do not wish to be understood as arguing against the administration of the amount now deemed proper. This point, however, in its bearing upon actual practice, seems to deserve examination.

Further, the fact that a substance so readily oxidable as a sulphite, can be taken up by the circulation, and pass through it, unoxidized, as respects any portion of it, and be eliminated unchanged by the kidneys, appears to be very remarkable. It was, however, proved by too many separate and decisive experiments to be left in any doubt.

Finally, I may remark to those who may wish to repeat these experiments, that, unless proper precautions are taken, the reactions are easily missed, at least in those instances where the amount of unchanged sulphite voided is very small. My first trial was made on a few drachms of liquid, and I failed to get any reaction. On the following day, by using several ounces, I obtained a faint but unmistakable reaction, and this with each succeeding day became more and more pronounced. The materials should be placed in a flask with a narrow and very long neck. A small lump of zinc is to be introduced, and lastly a few drops of pure chlorhydic acid, enough only to cause a very slight action, accompanied by an almost imperceptible effervescence. A piece of bibulous paper, moistened with solution of acetate of lead, is to be inserted into the neck of the flask, so as almost to close it. The whole is then to be set aside for several hours, after the lapse of which the paper is to be examined for the characteristic stains of sulphide of lead.

It is to be observed that there are two forms in which sulphur may find itself in the urine, apart from any direct administra-

tion of substances containing it. It is always present in the form of saline sulphates. Upon these substances nascent hydrogen has no reducing effect. But sulphur is contained also in albumen, which in certain forms of disease may be present in the urine. The formula of albumen, according to Liebig, contains three equivalents of sulphur, amounting to nearly two per cent. It appeared to me to be a matter of interest to determine whether albumen was capable of giving up a portion of its sulphur to the reducing action of zinc and chlorhydric acid, and thus to settle the question whether its presence could embarass the investigation as to the presence of sulphites. A considerable quantity of albumen was introduced into a flask and exposed to the action of zinc and chlorhydric acid for many hours. An almost imperceptible stain was found upon the lead paper. Now the ingestion of one hundred grains of sulphite per day—less than the usual dose—I have found to be capable of charging the urine so heavily, with undecomposed sulphite, that lead paper is visibly darkened in a few seconds, and by longer exposure becomes perfectly black. Whilst, therefore, albumen seems not entirely incapable of acting upon lead paper, its influence is not such as to disturb the applicability of the test, inasmuch as an aqueous solution certainly containing ten times as much as could be found in a like bulk of albuminous urine, gave only almost imperceptible indications.—*Am. Jour. Med. Sciences.*

PERMANGANATE OF POTASH AS A REMEDY FOR DIPHTHERIA.

By LOUIS MACKALL, Jr., M.D., Georgetown, D.C.

Having used for several months past the permanganate of potash as a remedy for diphtheria, and being convinced of its great efficacy, I feel justified in calling the attention of the profession to the use of this agent in this fatal and hitherto unmanageable disease.

After using faithfully all the remedies, both general and local, which have been extolled for the cure of diphtheria, and having seen so little good result from their use, I had lost, in a great measure, all faith in such remedies, and had come to the conclusion that the best treatment was to support the patient with nourishment and the free use of stimulants. On reading, in the January number of the *American Journal*, an article by Dr.

Samuel Jackson on the therapeutical application of a solution of the permanganate of potash and of ozone, it occurred to me that this agent might be beneficial in the treatment of diphtheria. Shortly afterwards I had an opportunity of making a trial of it in a severe case. A young girl about eleven years of age, was seen by me after being sick several days. The tonsils, soft palate, and fauces were covered with an ash-colored deposit; the glands beneath the jaw were much swollen, with frequent pulse and hot skin; she was treated for several days with chlorate of potash and the tincture of the chloride of iron. Muriatic acid and tincture of iron, in equal parts were applied locally. But finding the disease on the increase, I changed this treatment and used the permanganate of potash both internally and as a local application, the latter in the proportion of ʒj to water Oj. She took a teaspoonful every three hours of the strength of ʒj to water Oiss. On the second day after beginning this treatment, the improvement was very marked, and she speedily recovered. The false membrane was detached and the mucous membrane presented a healthy appearance in three or four days.

Since then I have treated all the cases of diphtheria (some fourteen or fifteen) which I have seen with this agent, and am more and more convinced with every case, that we have in the permanganate a most valuable remedy. Such is my faith in its power to arrest the extension of the pseudo-membranous formation, and to remove it when formed, that I now feel little apprehension in any case if called to see the patient before the disease has extended to the larynx or paralysis has occurred. Indeed, in those almost hopeless cases in which it is evident that the disease has reached the larynx, as shown by suppressed cough and voice with paroxysms of intense dyspnœa, I have seen under its use three children recover. With a considerable experience in the disease I had previously known only one child to recover under similar circumstances. These three cases were all of the most unfavorable character; the membranous formation was abundant; the laryngeal symptoms very distressing. In all of the cases I expressed a very gloomy prognosis, as all similar cases, with the one exception above mentioned, had proved speedily fatal. In these cases I also used emetics, but I think the successful result should be attributed to the permanganate, as I had used emetics in all such cases before without benefit.

When the disease has extended beyond the reach of this remedy locally applied, of course a successful result could not

reasonably be expected from its use; but I believe that with this agent we can prevent diphtheria from progressing to a fatal termination, provided the cases can be attended to before the larynx becomes involved.

Its tendency to attack the mucous membrane of the pharynx prior to its extension to the larynx is characteristic of diphtheria, and I feel assured from my experience that if the permanganate of potash is used in this stage, that it will not only control its further development, but will speedily remove all traces of the disease by restoring the mucous membrane of the throat to a healthy state.

The inferences that it is intended should be drawn from the foregoing remarks are: that if diphtheria arises from a specific cause affecting the whole system, then the permanganate of potash may be regarded as the antidote to this poison; or if the fatal tendency is thought to be caused by or to be dependent on the local affection of the throat, then the local affection may be removed and the fatal tendency may be obviated by the use of this remedy.

It may be well to state that I have never seen any unpleasant effect from the use of the permanganate, even when administered to young infants (the solution should be weakened by increasing the quantity of water to Oij to permanganate ℥j in very young children); and I have observed that when locally applied it causes less distress than almost any other remedy.—*Am. Jour. Med. Sciences.*

Book Notices.

Transactions of the American Medical Association. Vol. XV. Philadelphia: Printed for the Association, for 1864.

The Annual volume of Transactions for 1864, though smaller than many of the earlier volumes, is published in excellent style, and contains much matter of interest to the profession. Besides the ordinary record of the Proceedings of the Meeting in New York, in June, 1864, the Code of Ethics, and the full list of Members, the volume contains the following reports and papers:

Death from Air in the Circulation, introduced through the Uterine Sinuses. By H. O. Hitchcock, M.D., of Michigan.

A Modified Ring Pessary for the Treatment and Cure of

Anteflexion and Anteversion of the Uterus. By H. O. Hitchcock, M.D., of Michigan.

Report on the Use of Pessaries. By Augustus K. Gardner, M.D., of New York. With Illustrations.

A Paper on the Relations of Female Patients to the Hospitals for the Insane; the Necessity, on their Account, of a Board of Consulting Physicians to every Hospital. By Horatio R. Storer, M.D., of Boston.

Report on the Practical Working of the U.S. Drug Law. By Edward R. Squibb, M.D., of Brooklyn, N.Y.

On the Naturalization of Cinchonæ on the Eastern Continent. By J. Macgowan, M.D.

Report on Compulsory Vaccination. By James F. Hibbard, M.D., of Indiana.

Report on Military Hygiene. By E. Andrews, M.D., of Ill.

On the Physiological and Dietetic Relations of Phosphorous. By John H. Griscom, M.D., of New York.

Report on the Medical Topography and Epidemic Diseases of the State of Rhode Island. By Charles W. Parsons, M.D., of Providence, R. I.

Report on the Mortality of the City of New York. By Cyrus Ramsey, M.D., of New York.

On the Causes tending to Promote the Extinction of the Aborigines of America. By Jonathan Kneeland, M.D., of N.Y.

On the Pathology of the Lateral Curvature of the Spine. By Charles F. Taylor, M.D., of New York.

Laryngeal Probe Syringe. By R. Macfarlan, M.D., of N.Y.

On Iridectome. By Louis Elsburg, M.D., of New York.

Report on the Treatment of Congenital Fissure of the Palate by Mechanical Appliances. By Norman W. Kingsley, M.D., of New York.

Report on Puerpural Tetanus. By D. L. McGugin, M.D., of Iowa.

Prize Essay.—On the Pathology of Jaundice. By S. Fleet Speir, M.D., of Brooklyn, N.Y.

It will be seen from this list of contents, that the volume contains a considerable variety of topics, all of which are ably dis-

cussed, and present matter of interest to the whole profession. The principal defect in the volume, is the inadequate reports of the doings of the several Sections. It is in these sub-organizations that all the scientific work of the Association is done. In them the reports and papers are read, examined, and the questions which they suggest are discussed. Each of them should be supplied with a secretary or reporter capable of keeping an accurate, though condensed, record of all the debates, as well as the mere votes. Such record would not only preserve the important facts, suggestions, and opinions developed in the discussion of the several papers read, which would often be of far more value than the papers themselves, but they would greatly add to the inducements calculated to bring the best men in the profession into active participation in the doings of those Sections. We trust that measures will be taken to secure a much more efficient organization of the several Sections at the coming meeting, than at any of the previous ones.

MEDICAL LEXICON. A Dictionary of Medical Science; containing a concise explanation of the various subjects and terms of Anatomy, Physiology, Pathology, Hygiene, Therapeutics, Pharmacology, Pharmacy, Surgery, Obstetrics, Medical Jurisprudence, and Dentistry; notices of Climate, and of Mineral Waters; formula for Officinal, Empirical, and Dietetic Preparations; with the Accentuation and Etymology of the Terms. And the French and other Synonymes; so as to constitute a French, as well as English, Medical Lexicon. By ROBLEY DUNGLISON, M.D., LL.D., Prof. of Institutes of Medicine, &c., in the Jefferson Medical College of Philadelphia. Thoroughly Revised and very greatly Augmented. Philadelphia: BLANCHARD & LEA. 1865.

This is a new edition of Dr. DUNGLISON'S well-known Dictionary of Medical Science. It is published in excellent style, bound in leather, and contains over 1000 closely printed pages. It is undoubtedly the most complete and useful Medical Dictionary hitherto published in this country.

For sale by W. B. KEEN & Co., 148 Lake Street, Chicago.

GUN-SHOT WOUNDS AND OTHER INJURIES OF NERVES. By S. WEIR MITCHELL, M.D., GEORGE R. MOREHOUSE, M.D., and WILLIAM W. KEEN, M.D., Acting Assistant-Surgeons U.S.A., in charge of U.S.A. Wards for Diseases of the Nervous System, Turner's Lane Hospital, Philadelphia. Philadelphia: J. B. LIPPENCOTT & Co. 1864.

This is an unbound monograph of 164 pages; containing much matter of interest, especially in relation to certain pathological conditions of the nervous and muscular systems, and their treatment. For sale by S. C. GRIGGS & Co., 41 Lake St., Chicago.

GLAUCOMA: Its Symptoms, Diagnosis, and Treatment. By PETER DIRK KEYSER, M.D. Philadelphia: LINDSAY & BLAKISTON. 1864.

This is a monograph of 88 very neatly printed pages, in paper cover. The author gives a very interesting summary of what is known in regard to causes, symptoms, and treatment of glaucoma. It is worthy of a careful perusal.

Editorial.

NOTICE.—Our readers are all aware that during the last two years the prices of labor and paper have more than doubled. And by an estimate just given to us by our printer, we find that the actual cost of each number of the EXAMINER when ready for the mail is twenty-three cents; or *two dollars and seventy-six cents* for the twelve numbers to which each subscriber is entitled during the year.

This makes it necessary either to reduce the size of the EXAMINER or increase its price. Believing that the great majority of our subscribers would prefer the latter, we shall from this date make the subscription price *three dollars* per annum. All the subscribers who have already paid in advance for 1865 will receive their numbers to the end of the year without additional charge. But all new subscribers, and those now on our books, who have not paid for the present year, will be charged *three dollars* per annum from the first of January, 1865. Owing to an accidental circumstance in the printing office, the publication of the EXAMINER for December, 1864, was delayed several weeks. We shall soon regain the lost time, however, and keep the issue at its proper date.

CHICAGO MEDICAL COLLEGE (*Medical Department of Lake Forest University*).—The Sixth Annual Commencement for the conferring of degrees, in this institution, took place on the 7th of March, 1865. The lecture-room of the college was closely crowded with an intelligent audience. The exercises were opened by prayer by the Rev. Dr. KITCHELL. In the absence of Prof. JOHNSON, president of the faculty, Prof. N. S. DAVIS officiated as president, and after some remarks in relation to the history and progress of the College, those members of the Junior Class, who had passed their examinations, were called up and publicly presented with their Certificates of progress, accompanied by an earnest charge to so continue their studies, as not only to master the facts and principles of the medical science, but also to acquire a mental discipline and development capable of using those facts and principles with the highest degree of success. The list of Candidates for Graudation was then called by the Secretary, and the Degree of Doctor of Medicine was conferred, by the Acting President, on twenty-six young men, accompanied by an impressive charge in relative to the nature of their profession, the responsibilities it imposes, and the necessity of unbending virtue and unremitting labor and study, as the only reliable means for professional success. The President also announced that the ad-eundem Degree of M.D., had been conferred on four candidates, and the Honorary Degree on one; making the whole number of graduates *thirty-one*. The Committee on the awarding of Prizes, reported that the prize for the best Inaugural Thesis had been awarded to John C. Pratt; the prize for the second best Inaugural Thesis, to Henry P. Merriman; and the prize for having sustained the best examination for graduation, to Melvin N. Rust.

The Valedictory Address was then delivered by Prof. J. S. JEWELL. The Address was highly appropriate for the occasion, and admirably calculated to benefit those to whom it was addressed. The subject was, the necessity of mental discipline, and the study of metaphysics and logic as a means of obtaining it. The names of the graduates are as follows:—

H. C. Barrell,--------U.S.A.
M. Block,----------Illinois.
R. F. Blount, -------Indiana.
J. V. Campbell,------Illinois.
Thomas Cochran, ---- "
Daniel Duckett,------ "
J. F. Fleming,------- "
J. W. Frazey, ------- "
A. Grætinger, ----Wisconsin.
A. B. Hanna,--------Illinois.
Charles Isham, ------ "
G. A. Kuechen,--------Iowa.
J. E. Link, ----------Illinois.
S. McGiffin,----------Ohio.
H. P. Merriman,-----Illinois.
R. C. Moore, -------- "
S. M. Pegram, ------- "
W. H. Pevler, ------- "
J. C. Pratt, -------Michigan.
M. N. Rust,----------Illinois.
W. D. Saxton,----Wisconsin.
W. H. Searles,---- "
J. S. Sherman, ------Illinois.
C. M. Spalding,------ "
J. W. St. John,---Wisconsin.
J. F. Williams, ------Illinois.

Ad-eundem Degree.

David Cole,----------Iowa.
D. Hinckley, ---------Illinois.
J. E. Thayer,------Wisconsin.
D. B. Wren,----------Ohio.

Honorary Degree.

E. C. DePuy,----------Illinois.

The whole number of matriculants, for the Term just closed, was ninty-seven. It will thus be seen, that the Chicago Medical College is steadily advancing in prosperity and usefulness. The next Summer Reading and Clinical Term commences on the second Monday in March, and continues until the fourth of July. For particular information in relation to any matter connected with the College, application may be made to the Secretary of the Faculty, Prof. E. ANDREWS, 101 Washington Street, Chicago.

CHICAGO MEDICAL SOCIETY.—At the regular weekly meeting of the Chicago Medical Society, on the evening of March 11th, 1865, Dr. HILDRETH, Surgeon to the Desmarres Hospital in this city, for the treatment of soldiers affected with diseases of the eye and ear, presented to the Society a soldier, about 20 years of age, with a striking want of development in his external auditory apparatus. Both external ears were very small and imperfect in their formation, and the external auditory canals or meatus were entirely *absent*, both in the soft parts and

the temporal bone. Yet the individual could hear ordinary conversation without any difficulty. The defect was congenital. During the discussion to which this case gave rise, Dr. HILDRETH mentioned the case of a soldier who had become deaf, from supposed anchylosis of the small bones of the ear, but whose hearing was restored by a severe concussion. And Dr. DAVIS alluded to a case, which had been reported to him about two years since, of congenital deafness; the individual having been educated as a deaf mute; but in which hearing was restored during the progress of an attack of severe *variola*, occurring after the patient had attained the age of 45 years.

The Society spent the remainder of the evening in an interesting and profitable discussion on the nature and treatment of erysipelas.

MORTALITY OF CHICAGO FOR FEBRUARY, 1865.—The following table of mortality is condensed from the Health Officer's report. The month was characterized by a prevalence of dry, pleasant, and only moderately cold weather:—

DISEASES.

Accidents and Injuries,	3	Laryngitis or Croup,	23
Calculus,	1	Marasmus,	1
Cancer of Stomach,	3	Old Age,	7
Consumption,	33	Ovarian Tumor,	1
Convulsions,	32	Puerpural Fever,	11
Diarrhœa,	8	Rubeola (Measles),	2
Diphtheria,	4	Rheumatism,	3
Disease of the Heart,	3	Scarlet Fever,	8
Disease of the Liver,	1	Scrofula,	1
Dropsy,	8	Small-Pox,	17
Erysipelas,	2	Spinal Meningitis,	3
Gangrene,	1	Stillborn,	18
Inflammation of Brain,	9	Suicide,	4
Inflammation of Broncha,	3	Typhoid Fever,	9
Inflammation of Kidneys,	1	Unknown,	8
Inflammation of Liver,	1		
Inflammation of Lungs,	21	Total,	256
Inflammation of Stomach & Bowels	6		

NATIVITIES.

Atlantic Ocean,	1	England,	5	Poland,	1
Chicago,	133	Ireland,	29	Colored,	6
Illinois,	3	Scotland,	1	Unknown,	6
Other States,	31	France,	1		
Canada,	2	Germany,	30	Total,	256
Denmark,	1	Norway,	8		

AGES OF THE DECEASED.—Under 5 years, 107; over 5 and under 10 years, 10; over 10 and under 20, 14; over 20 and under 30, 27; over 30 and under 40, 31; over 40 and under 50, 16; over 50 and under 60, 12; over 60 and under 70, 9; over 70 and under 80, 5; over 80 and under 90, 2; stillborn, 18; unknown, 5. Total, 256.

NEW HOSPITAL FOR WOMEN AND CHILDREN.—We copy the following from one of our daily papers. Of the mental and professional qualifications of Miss Dr. THOMPSON, we have no personal knowledge; but the boards of consulting physicians, surgeons, and accoucheurs, are composed of reliable and intelligent members of the profession. We hope the institution will be successfully established:—

THE HOSPITAL FOR WOMEN AND CHILDREN.—The hospital for the relief and medical care of poor but respectable women and children has been organized by the election of the necessary officers and a board of trustees. A constitution and by-laws for the proper government of the institution have also been adopted, and the hospital may now be looked on as a fixed fact. The fee for the admission of members has been fixed at five dollars, while the payment of twenty-five dollars entitles a person to be elected a life member of the association. The board of trustees is to consist of forty members, a majority of whom must be ladies. It is also provided that the annual meeting of the association will be held on the last Monday of February in each year. The following are the officers of the society for the current year:

President—Mr. J. Y. Scammon.

Vice-Presidents—Messrs. J. V. Farwell, and G. S. Bowen.

Treasurer—E. I. Tinkham.

Resident Physician—Miss Mary H. Thompson.

Consulting Physicians—Drs. W. G. Dyas, C. G. Smith, and S. C. Blake.

Consulting Surgeons—Drs. A. Fisher, J. Bartlett, and T. D. Fitch.

Consulting Accouchers—Drs. Thomas Bevan, H. W. Jones, and E. Marguerat.

Eye and Ear Surgeon—Dr. E. L. Holmes.

Finance Committee—J. V. Farwell, G. S. Bowen, E. I. Tinkham, C. T. Morse, and F. B. Gardner.

Executive Committee—Mrs. W. G. Dyas, Mrs. Colby, Mrs. George Hall, Mrs. W. D. Blain, William Doggett, and T. M. Avery.

Trustees—Mr. J. Y. Scammon, Mr. J. V. Farwell, Mr. J. S.

Bowen, Mr. E. I. Tinkham, Rev. Dr. Collyer, Rev. Dr. Tiffany, Mr. W. E. Doggett, Mr. C. Morse, Mr. F. B. Gardner, Mr. T. M. Avery, Mrs. D. P. Livermore, Mrs. H. Sayrs, Mrs. W. Wheeler, Mrs. Dr. Ryder, Mrs. Dr. Tiffany, Mrs. George Hall, Mrs. D. F. Kimble, Mrs. W. Carpenter, Mrs. Dr. S. C. Blake, Mrs. A. Moody, Mrs. Sandford, Mrs. Degenhardt, Mrs. E. A. Kent, Mrs. J. Medill, Mrs. M. C. Scott, Mrs. W. D. Blain, Mrs. W. G. Dyas, Mrs. A. E. Canfield, Miss M. H. Thompson.

Personal.—H. A. Johnson, A.M., M.D., Prof. of General Pathology and Public Hygiene, in the Chicago Medical College, left home on the fifth of March, on a trip to Europe, where he will probably remain for six or eight months. We cordially wish him a prosperous and pleasant season of travel, and a rapid improvement of health.

Hospital Appointment.—J. S. Jewell, M.D., Prof. of Anatomy, in the Chicago Medical College, has been appointed one of the Attending Physicians of the Mercy Hospital. This is an excellent appointment in every respect.

Illinois State Medical Society.—The following is the list of Committees expected to report at the Annual Meeting of the State Medical Society, to be held in Bloomington, on the first Tuesday in May, 1865:—

Committee on Practical Medicine and Epidemics: J. Adams Allen, M.D., of Chicago; C. Goodbrake, M.D., of Clinton; H. Noble, M.D., of Hayworth.

Committee on Surgery: D. W. Young, M.D., of Aurora; A. L. McArthur, M.D., of Joliet; L. T. Hewins, M.D., of Oak Alla.

Committee on Obstetrics: W. H. Byford, M.D., of Chicago; Lucius Clark, M.D., of Rockford; S. T. Trowbridge, M.D., of Decatur.

Committee on Drugs and Medicines: John Bartlett, M.D., of Chicago; F. R. Payne, M.D., of Marshall; T. D. Fitch, M.D., of Chicago.

Committee on Ophthalmology: E. L. Holmes, M.D., of Chicago; R. E. McVey, M.D., of Waverly; J. S. Whitmire, M.D., of Metamora; F. B. Haller, M.D., of Vandalia.

Committee on Spotted Fever: J. S. Jewell, M.D., of Chicago.

Committee on Orthopædic Surgery: David Prince, M.D., of Jacksonville.

The Committee of Arrangements and the Profession in Bloomington are preparing to give the Society a cordial reception, and we trust the coming meeting will be larger and more profitable than any that have preceded it. We hope the committees will have their reports fully prepared.

American Medical Association.—The American Medical Association will hold its Sixteenth Annual Meeting in the City of Boston, on Tuesday, June 6th, 1865.

The following Committees are expected to report:—

On Insanity—Dr. H. R. Storer, Mass., Chairman.

On Exsection and its connection with Conservative Surgery—Dr. Lewis A. Sayres, N. Y., Chairman.

On Drainage and Sewerage of Large Cities, and their Influence on Public Health—Dr. W. J. C. Duhamel, D. C., Chairman.

On Alcohol and its Relations to Man—Dr. G. E. Morgan, Maryland, Chairman.

On Quarantine—Dr. Wilson Jewell, Penn., Chairman.

On Medical Ethics—Dr. John A. Murphy, Ohio, Chairman.

On the Microscope—Dr. James M. Corse, Penn., Chairman.

On the Relations which Electricity sustains to the Causes of Disease—Dr. Squire Littell, Penn., Chairman.

On the Morbid and Therapeutic Effects of Mental and Moral Influences—Dr. A. B. Palmer, Mich., Chairman.

On the Causes of the Extinction of the Aboriginal Races of America—Dr. Geo. V. Suckley, Md., Chairman.

On the Causes and Treatment of Ununited Fractures—Dr. Frank H. Hamilton, N. Y., Chairman.

On Diphtheria—Dr. Lucius Clark, Ill., Chairman.

On the Uses and Abuses of Pessaries—Dr. James P. White, N. Y., Chairman.

On International Medical Ethics—Dr. J. Baxter Upham, Mass., Chairman.

On Climatology and Epidemic Diseases—Dr. C. W. Parsons, R. I., Chairman.

On Autopsies in Relation to Medical Jurisprudence—Dr. T. C. Finnell, N. Y., Chairman.

On so-called Spotted Fever—Dr. James J. Levick, Penn., Chairman.

On the Introduction of Disease by Commerce, and the Means of its Prevention—Dr. A. Nelson Bell, N. Y., Chairman.

On Patent Rights and Medical Men—Dr. David Prince, Ill., Chairman.

On Revision of Plan of Organization—Dr. N. S. Davis, Ill., Chairman.

On Specialists—Dr. J. Homberger, N. Y., Chairman.

On Compulsory Vaccination—Dr. A. N. Bell, N. Y., Chairman.

On Rank of Medical Corps in the Army—Dr. C. S. Tripler, U.S.A., Chairman.

On Rank of Medical Corps in the Navy—Dr. T. L. Smith, N. Y., Chairman.

WM. B. ATKINSON, *Permanent Secretary.*

Destruction of Tumors by Electricity.—Mr. Nelaton communicates a paper on the destruction of tumors by an electrolytic method, applicable to cases in which the tumor is deeply seated, and inaccessible to ordinary instruments. The case quoted by him was a naso pharyngian polypus, which was electro-chemically destroyed by inserting two platnam pins into its mass, and making them communicate with the poles of a Bunsen's pill, consisting of nine elements, sixteen centimeters in height by eight in diameter, and arranged for tension. The tumor was destroyed in six sittings, without any effusion of blood, and with very little pain.—*Correspondent of Med. and Surg. Rep.*

Army Medical Intelligence—*Promotions.*—Among the promotions in the Medical Department sent to the Senate by the President are the following:—Medical Inspector-General, Joseph K. Barnes, to be Surgeon-General, with the rank of Brigadier-General, August 22d, 1864, *vice* Hammond, dismissed. Surgeon Madison Mills, to be Medical Inspector-General, with the rank of Colonel, December 1, 1864, *vice* Barnes, appointed Surgeon-General.

Effect of Petroleum on the Nervous System.—Dr. Georges has observed that the emanations of petroleum have a weakening effect on the muscular system, and cause headache, especially in the case of nervous people, and those who live in a confined atmosphere exposed to these emanations. He states that the latter contain a peculiar principle which may be eliminated, and is found to act principally on the heart and brain. Ether of petroleum may, he adds, be used to cool the teguments during surgical operations, because it causes no pain on the bleeding parts.—*Cor. Med. and Surg. Rep.*

Renal Calculi.—Dr. Owen Rees, in the last number of Guy's

Hospital Reports, gives some clinical remarks on calculus diseases. Dr. Rees comments on the common belief that the presence of a calculus in the kidney is always attended with obvious hæmatura; and he cites cases to show that in cases where all the other symptoms of renal calculus are present, there may yet be no blood in the urine. He believes that, in consequence on an undue importance being attached to the absence of this sign, causes of renal calculus have sometimes been treated as if the symptoms were those of gouty or hepatic derangement. Again, Dr. Rees observes, that frequent micturation, though often observed in cases of renal calculus, is not always to be expected. One gentleman of my acquaintance, he says, almost suddenly was seized in the street by violent pain in the side and retraction of the testicles; and on hurrying home passed bloody urine and a calculus, which latter must have been in the kidney many months without producing any other symptom than an uneasy sensation about the loins.

The pain in cases of renal calculus has been said to be more severe on one side than on the other, even when it exists on both sides. But Dr. Rees says, that he has frequently met with cases where the passage of renal calculi has been preceded by all the ordinary symptoms, except pain in the lumbar regions, the discomfort being altogether referred to the sacrum. He also points out a peculiarity which attends the presence of a calculus in the right kidney. The pain, he says, in these cases is referred to the right hypochondrium. It extends downwards towards the umbilicus, but not to the lumbar region. There is a feeling of great distension over the colon, and the bowels are constipated. These are the symptoms so often regarded as significant of biliary calculus, an error easily committed if blood be not perceived in the urine.—*British Medical Journal.*

Existence in the Human Subject of Organs unprovided with Nerves, Lymphatics, or Capillaries.—Prof. Simpson, of Edinburgh, in an article in a recent number of the *Medical Times and Gazette* (October 29, 1864,) gives an account of some investigations relative to the structure of the umbilical cord and placenta.

The following are his general conclusions:—

1. The volume of the umbilical cord and fœtal portion of the placenta is formed of nucleated cellular tissue, traversed by the tubes of the umbilical arteries and vein and their numerous placental subdivisions; and the cord and fœtal surface of the placenta are covered by a sheath of serous or seroid membrane.

2. Into the composition of these parts no capillaries, vasa vasorum, lymphatics, nor nerves are found to enter.

3. Hence, in human anatomy, we have these organs, forming a large mass, weighing on an average about two pounds, presenting a type of structure resembling that of some of the inferior zoophites. And,

4. The human mother and her child, two of the most highly-organized beings in existence, are thus temporarily united together, during the intra-uterine life of the latter, by structures of the lowest zoological type.—*Paris Cor. of Lancet.*

Deformities of the Feet and the Treatment by Means of Plaster Paris.—Dr. D. C. Enos, in an article read before the Medical Society of the County of Kings, New York, gives the following mode, &c.: Take a straight piece of muslin, wide enough to embrace the head of the tibia, and long enough to extend from the head of the tibia around the heel, and as far as the great toe; then *tear* five or six other pieces of the same size; next stir some plaster of Paris in warm water, till about the consistency of cream; place upon a board, or table, one of the pieces of muslin, and put on it a teaspoonful or two of the plaster, and, with a long knife, spread it evenly over the cloth, so that it shall *be wet and thinly covered;* place upon this another piece of muslin smoothly, and with more of the plaster spread in like manner, and so continue to spread layer after layer until the last, which should *not* be spread; or if so, should be covered with a thin layer of cotton, to come next to the limb. Place the bandage behind the leg, and first bend it around the head of the tibia, and let an assistant hold this firmly, while you next apply it to the sole of the foot as far as the great toe; if it should be too long, turn it back on itself so as to leave the toes exposed; next bend it around so as to neatly embrace the foot to the instep. There is now a redundance of cloth at the angle of the foot, which may be disposed of by folding it on itself so as to smoothly apply the remainder to the ankle and leg; over this a roller should be applied from the toes to the knee, and back again, so that the dry cloth may absorb the moisture from the plaster, and thus facilitate its setting. As soon as the roller is applied, grasp the foot and ankle firmly and forcibly, press the foot towards its normal position, holding it steadily 10 or 15 minutes, till setting has made it firm. Sometimes he embraces the foot and ankle; first, by taking a piece of muslin, from one or two yards long, and from six to eight inches wide, spread it thinly with the plaster, double it longitudinarily and

spread it again, and double it once more, and apply it to the foot and ankle, somewhat like an ordinary roller, holding the foot as before till the plaster sets. This answers for deformities of the foot, simply, where its position with the tibia is normal; but if it is abnormal, as it usually is, the retentive apparatus must extend to the knee, after embracing the foot, as already fixed. Sometimes this can be advantageously done by putting a number of folds of the plastered muslin along on the top of the foot and anterior part of the leg, strengthening it in the instep by an extra quantity of plastered cloth, binding this on with a roller, and holding the foot firmly up till the plaster sets. Occasionally, to strengthen the first described application, he applied over it this plaster and four folded roller around the foot and ankle, thus making a figure of eight bandage. After the apparatus had been on for three or four days, it can be removed, and a new one applied, when, from the absorption that has taken place, an increased amount of pressure can be borne, and the foot made to approach still more towards its normal position.—*Buffalo Medical and Surgical Journal.*

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VALENTINE MOTT, M.D.
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